NATIONAL GUARD AND RESERVE EQUIPMENT REPORT FOR FISCAL YEAR 2002

NGRER

(In Accordance with Title 10, United States Code, Section 10541)

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Prepared by
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PERSONNEL AND
READINESS

FOREWORD

The National Military Strategy requires United States military forces to sustain the operational tempo upon deployment anywhere on the globe. Given the size and structure of our military today, this strategy requires our Reserve components to support multiple missions across the continuum of military operations. This environment demands a military that is ready to respond at a moment's notice.

Properly equipping the Reserve components with compatible, interoperable, and up-to-date equipment is an important piece of the strategy. It is supported by the Department of Defense "first-to-fight, first-to-employ" policy, which underlies equipment distribution and requires that equipment is provided to units commensurate with their planned wartime deployment, irrespective of component.

In response to Congressional reporting requirements identified in Title 10, United States Code, Section 10541, the National Guard and Reserve Equipment Report (NGRER) describes the individual plans of each Service, and the United States Coast Guard, to meet equipment on-hand requirements to support the National Military Strategy. The report is designed to answer the question: How are the Reserve components equipped to meet mobilization requirements?

Chapter one of this report is an overview of the state of Reserve component equipment readiness and provides an analysis of key issues, such as equipment availability, equipment shortages, procurement plans to fill shortages, and compatibility and interoperability issues affecting Reserve component equipment. Chapters two through six provide detailed narratives and data tables for fiscal year 2002, and notional data for fiscal years 2003 and beyond (subject to change). The narratives articulate both the Service and the individual Reserve component equipment plans.

The NGRER provides evidence that the Services are integrating the Reserve components into their equipping plans and programs. However, there is still work ahead to achieve full Total Force integration.

Sincerely,

DISCLAIMER

This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

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Introduction

I. Report Requirements

a) Overview of Statutory Requirement: The Department of Defense (DOD) Authorization Act of 1982 (Public Law 97-86) established the requirement for DOD to provide an annual report to the Congress, by February 15th of each year, on the status of National Guard and Reserve equipment; hereafter referred to as the National Guard and Reserve Equipment Report (NGRER). The Goldwater-Nichols DOD Reorganization Act of 1986 amended Title 10 of the US Code placing the reporting requirement under Section 115(b). The Congress in Public Law 103-337 transferred reporting requirements to a new Subtitle E, Reserve Components, Part 1, Chapter 1013, which was re-designated Section 10541. Finally, in compliance with the FY 1993 National Defense Authorization Act, Section 1134, Title XI, the NGRER was expanded to include a description of the current status of equipment incompatibility between the Active and Reserve components, the effect of that level of incompatibility, and the plan to achieve full compatibility.

This report is prepared by the Office of the Assistant Secretary of Defense for Reserve Affairs with the Department of the Army, the Department of the Navy, the Department of the Air Force, and the Department of Transportation (US Coast Guard).

b) Current Law: The section below is an excerpt from Title 10, United States Code, Section 10541.

National Guard and Reserve component Equipment: Annual Report to Congress

(a) The Secretary of Defense shall submit to the Congress each year, not later than February 15, a written report concerning the equipment of the National Guard and the reserve components of the armed forces for each of the three succeeding fiscal years.

(b) Each report under this section shall include the following:

(1) Recommendations as to the type and quantity of each major item of equipment which should be in the inventory of the Selected Reserve of the Ready Reserve of each reserve component of the armed forces.

(2) A statement of the quantity and average age of each type of major item of equipment which is expected to be physically available in the inventory of the Selected Reserve of the Ready Reserve of each reserve component as of the beginning of each fiscal year covered by the report.

(3) A statement of the quantity and cost of each type of major item of equipment which is expected to be procured for the Selective Reserve of the Ready Reserve of each reserve component from commercial sources or to be transferred to each such Selected Reserve from the active-duty components of the armed forces.

(4) A statement of the quantity of each type of major item of equipment which is expected to be retired, decommissioned, transferred, or otherwise removed from the physical inventory of the Selected Reserve of the Ready Reserve of each reserve component and the plans for replacement of that equipment.

(5) A listing of each major item of equipment required by the Selected Reserve of the Ready Reserve of each reserve component indicating -

(A) the full war-time requirement of that component for that item, shown in accordance with deployment schedules and requirements over successive 30-day periods following mobilization;

(B) the number of each such item in the inventory of the component;

(C) a separate listing of each such item in the inventory that is a deployable item and is not the most desired item;

(D) the number of each such item projected to be in the inventory at the end of the third succeeding fiscal year; and

(E) the number of non deployable items in the inventory as a substitute for a required major item of equipment.

(6) A narrative explanation of the plan of the Secretary concerned to provide equipment needed to fill the war-time requirement for each major item of equipment to all units of the Selected Reserve, including an explanation of the plan to equip units of the Selected Reserve that are short of major items of equipment at the outset of war.

(7) For each item of major equipment reported under paragraph (3) in a report for one of the three previous years under this section as an item expected to be procured for the Selected Reserve or to be transferred to the Selected Reserve, the quantity of such equipment actually procured for or transferred to the Selected Reserve.

(8) A statement of the current status of the compatibility of equipment between the Army reserve components and active forces of the Army, the effect of that level of incompatibility on combat effectiveness, and a plan to achieve full equipment compatibility.

(c) Each report under this section shall be expressed in the same format and with the same level of detail as the information presented in the annual Five Year Defense Program Procurement Annex prepared by the Department of Defense.

II. Report Objective

Based upon the law, the Office of the Assistant Secretary of Defense for Reserve Affairs (Materiel & Facilities), with concurrence from all Services, has identified the following objectives:

- Provide the Services' plan to equip their Reserve forces in a time of constrained DOD budgets.

- Concentrate on fiscal years 2002 to 2004 Reserve component requirements, procurements and changes.

- Provide an overview of current RC equipment from three perspectives:
  - current status of equipment on-hand
  - future year equipment procurements for FY 2002 - FY 2004
  - remaining shortfall and unfunded requirements for FY 2005 and beyond.

- Focus primarily on major items of equipment, which include aircraft, tanks, ships, trucks, engineer equipment and major items of support equipment. These items normally will include large dollar-value requirements, critical RC shortages, Service and National Guard & Reserve Equipment Appropriations (NGREA) procured items, and any RC specific item, which the Chief of the specific RC wishes to highlight.

III. Report Contents

a) Report Introduction / Overview and Analysis (Chapter 1): The Introduction provides an overview of statutory requirements, report objectives, and terminology. The Overview and Analysis Chapter presents a composite Department of Defense perspective on National Guard and Reserve equipment and serves as the executive summary of the report.

b) Service Narratives and Data Tables (Chapters 2-6): Chapters 2 through 6 discuss each Service and their respective Reserve components by addressing RC equipping policies and methodologies. Each chapter contains a Service overview, RC overview, and a discussion on current equipment status, future equipment procurements, and remaining shortfall and unfunded requirements. Additionally, each chapter contains a discussion describing the current status of equipment compatibility/interoperability between the Active and Reserve components of each Service, the effect of that level of compatibility/interoperability, and a plan to achieve full compatibility/interoperability.

Reserve component data tables for each Service contain specific information on major items of equipment selected for this report and are placed at the end of each RC narrative section. The NGRER articulates data in eight tables (*Tables 1-8*) for each RC; however, some RCs have omitted tables which do not apply to their component; therefore, a blank page has been inserted to note that no data is available for that RC. The "Data Table Explanation" at the end of this section defines the data contained in *Tables 1-8*.

IV. Equipment Substitution

If an on-hand item of equipment is to be employed in lieu of the required item in wartime (due to an equipment density shortfall of the required item), the on-hand item is classified as a "substitute item" and is reported as such in the Service substitute equipment list (*Table 7*) located at the end of each RC narrative. An item in a Service's data table, which is used as a substitute item, may not show a requirement for those quantities of the item which are considered substitutes. The requirement, in this case, is reported against the "preferred" item.

V. Terminology and Definitions

Major Items of Equipment include aircraft, tanks, ships, trucks, engineer equipment and major items of support equipment. These items normally will include large dollar-value requirements, critical RC shortages, Service and National Guard & Reserve Equipment Appropriations (NGREA) procured items, and any RC specific item which the Chief of the specific RC wishes to highlight.

Required Quantity is the total number of an item required to be on-hand or available to Reserve component units to go to war and accomplish their mission(s). This includes requirements for war reserve and other stocks. The simplified term "requirement," as used in this report, is synonymous with "full wartime requirement," and satisfies the requirement in Title 10 to provide a “recommendation” as to the type and quantity of equipment needed in RC inventories.

On-Hand Quantity is the equipment physically on-hand in Reserve or Active component units or in war reserve and other stocks specifically designed for wartime use by the Reserve or Active components.

Deployable Item is an item which, considering its suitability, operability, compatibility and supportability, will provide an expected degree of mission success sufficient to warrant its wartime operational employment.

Substitute Item is not the most desired item but based upon its capability can be employed in wartime in lieu of a combat essential required item of equipment.

Equipment Shortage (Shortfall) is the difference between the quantity required and the quantity on-hand, excluding substitute items and excess quantities beyond the required quantity.

Modernization Shortfall is the difference between the required quantity of the most modern item and the on-hand quantity of that item. Modernization shortfalls are not necessarily equipment shortages, as most Services substitute older versions of an item for the most modern item. Therefore, modernization shortfalls are shortages of the most modern item only.

VI. Data Table Explanations

a) A separate set of Data Tables (*Tables 1-8*) is provided in Chapters 2 through 6 for each Reserve component. These tables contain the required information relative to major items of equipment identified in the report. The following list identifies the separate data tables that should be included in the report for each RC. (Note: Some tables may not be applicable for all Reserve components.)

- Table 1: Major Item Inventory and Requirements (This is an all-inclusive table while other tables are subsets of *Table 1*)
- Table 2: Average Age of Equipment
- Table 3: Service Planned Procurements (P-1R Data)
- Table 4: NGREA Planned Procurements (FY 1999 – FY 2001)
- Table 5: Projected Equipment Transfers and Withdrawals
- Table 6: FY 1998 Planned vs. Actual Procurements and Transfers
- Table 7: Major Item of Equipment Substitution List
- Table 8: Significant Major Item Shortages

b) The following paragraphs provide an explanation of the data table columns and data criteria by Table.

Table 1: Major Item of Equipment Inventory. This table provides a comprehensive list of all major items of equipment the Reserve component chooses to highlight, by providing key administrative data, on-hand inventories and wartime requirements.

Nomenclature is the description or common name of the item of equipment.

Reserve Component (RC) is the specific Reserve or National Guard entity, i.e. Army National Guard (ARNG), US Army Reserve (USAR), US Marine Corps Reserve (USMCR), Air National Guard (ANG), US Air Force Reserve (USAFR), US Naval Reserve (USNR) and US Coast Guard Reserve (USCGR).

Equipment Number is the individual Service equipment identification code: Line Item Number (LIN) for Army; Table of Authorized Materiel (TAM) for Marine Corps; Equipment Cost Code (ECC) for Navy engineering items; and National Stock Number (NSN) for Air Force.

Cost is the FY 2002 procurement cost per unit. If an item is no longer being procured, the inflation adjusted cost from the last procurement is shown. If an item is programmed for initial procurement beyond FY 2002, the data table depicts the projected unit cost at the time of procurement.

Quantity On-hand (QTY O/H) is the actual/projected item count for a particular item of equipment for a given year.

Quantity Required (QTY REQ) is the authorized wartime requirement for a given item of equipment.

Table 2: Average Age of Equipment. This table is a subset of *Table 1* and highlights the average age of selected items of equipment.

Average Age is the calculated age of a given item of equipment. Since equipment is normally procured over several years, this figure provides an average age of the fleet.

Table 3: Service Planned Procurements (P-1R). This table highlights items of equipment which the Service intends to procure for their Reserve component. The source of this data is the P-1R exhibit to the President's budget.

Table 4: National Guard & Reserve Equipment Appropriation (NGREA) Procurements. This table highlights the items which the Reserve components plan on procuring with miscellaneous National Guard & Reserve Equipment funds. Since these funds are available for three years, this table highlights those items in the current procurement cycle.

Table 5: Projected Equipment Transfers and Withdrawal Quantities. This table portrays the planned equipment transfers (Active to Reserve), withdrawals, and decommissioning. Transfers are commonly called "cascaded" equipment or equipment that is provided to the RC once the Active receives more modern equipment items. Although this table highlights a three-year period, many Services do not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.

Table 6: FY 1998 Planned vs. Actual Procurements and Transfers. This table compares what the Services planned to procure and transfer to the RC in FY 1998 with actual procurements and transfers. Since the procurement cycle is normally one to two years from

funding to delivery, this table identifies only what has been delivered through the end of FY 2000.

Planned Quantity is the item quantity the Service programmed to deliver to the RC as part of the budgeting process.

Actual Quantity is the item quantity the Service actually delivered or has in the procurement cycle to deliver to the RC.

Table 7: Major Item of Equipment Substitution List. A list of equipment authorized by the Service to be used as a substitute for a primary item of equipment. This table also identifies whether this substitute item is an item which is suitable for deployment in time of war.

Nomenclature (Required Item / Substitute Item), see *Table 1* description for nomenclature.

Equipment Number (Required Item / Substitute Item), see *Table 1* description for equipment number.

Table 8: Significant Major Item Shortages. The top ten items of equipment and modernization/upgrades, which are not funded in the FY 02-07 FYDP, are listed on this table in priority order. If additional funds were to become available, the RCs would apply those funds to the highest priority item on this list.

Chapter 1
Analysis and Overview

I. Scope of Report

The National Guard and Reserve Equipment Report (NGRER) identifies major items of equipment in the Reserve components (RC) of each Service, to include the US Coast Guard, which are of interest to the Department of Defense and the Congress. Each year the Services and their Reserve components review the equipment currently in the RC inventories to determine which equipment should be included in the NGRER. Major items of equipment include aircraft, tanks, ships, trucks, engineer equipment and various items of support equipment. Equipment included in the report consists of large dollar-value requirements and equipment shortages, critical RC shortages, Service procurements for the RC and equipment procured with National Guard and Reserve Equipment Appropriation (NGREA) funds.

Chart 1 below compares the number of line items of equipment included in recent NGRERs.

Chart 1

Items of Equipment Reported in the NGRER				
Reserve Component	**FY 1999 NGRER**	**FY 2000 NGRER**	**FY 2001 NGRER**	**FY 2002 NGRER**
Army National Guard (ARNG)	358	275	168	113
Army Reserve (USAR)	298	248	239	239
Marine Corps Reserve (USMCR)	154	146	154	157
Naval Reserve (USNR)	294	136	44	38
Air National Guard (ANG)	191	163	29	31
Air Force Reserve (USAFR)	127	121	17	16
Coast Guard Reserve (USCGR)	41	34	0	21
Total	1463	1123	651	615

NOTE: The USCGR included Active Coast Guard equipment prior to FY 2001. The FY 2002 report focuses on USCGR equipment only.

The fiscal year (FY) 2002 NGRER highlights a total of 615 lines of major equipment currently in RC inventories. Although this represents a slightly smaller number of equipment line items compared to previous reports, it still represents approximately 92 percent of the total dollar-value of all RC equipment requirements. The line items of equipment dropped were a result of Service decisions to streamline reporting by focusing only on major items of equipment. This streamlining has minimal effect on the overall equipment analysis. Therefore, the items of equipment listed in this report represent a sufficient sample to draw accurate conclusions regarding the total inventory of RC equipment.

The analysis in this report is based primarily on dollar values, which are weighted by high dollar-value equipment items such as ships and aircraft. Procurement costs are based on the Services' official data and reflect either the latest procurement cost adjusted for inflation, or the current replacement cost. In some cases, these costs over-value older equipment being

withdrawn or redistributed to the RC. However, since withdrawals consist of only a few items of equipment per Service, this does not significantly affect the overall analysis.

II. Long Term Equipping Strategy

The Assistant Secretary of Defense for Reserve Affairs developed an RC Equipping Strategy to ensure that RC units are equipped to support the National Military Strategy, to include crisis response and peacetime engagements. The long-term goal of the equipping strategy is to have the Reserve components equipped with modern, compatible equipment to enable them to do their job side-by-side with the Active components and coalition partners. The equipping strategy is based on identifying all RC equipment requirements, using smart business practices whenever possible to resolve equipment shortfalls, and procuring new equipment only when necessary.

In 1996, the Assistant Secretary of Defense for Reserve Affairs issued a White Paper on "Equipping the Reserve Components" describing smart business practices executed by the Reserve components. An example widely used throughout the Reserve components is called the Extended Service Program (ESP) or Service Life Extension Program (SLEP). ESP/SLEP is used to extensively rebuild existing equipment at a fraction of the cost of new procurement. For example, a tactical truck nearing the end of its mechanical and functional life gains an additional 15 years using this method. The ESP/SLEP initiative has been successful in quickly providing reliable equipment at significant cost savings to the Reserve components of the Army, Marine Corps, Navy, and Air Force.

In Army units, excess models of certain equipment have been converted to models, which are in short supply. For example, heavy cargo trucks have been converted into bridge transporters. The Marine Corps is also launching a cost-saving program to modernize utility and attack helicopters into higher capacity systems through extensive upgrades and the application of four-blade rotors to replace the older two-blade rotor system. The Marine Corps, Navy, and Air Force routinely modify and upgrade their combat aircraft to increase capability and ensure compatibility within Service fleets.

The Reserve components are using the latest commercial practices, such as just-in-time inventory and controlled humidity storage, to achieve efficiencies and cost savings. In other cases, commercial items are used in lieu of military-specifications, and industry sources are now rebuilding equipment and providing repair parts support. The Service narrative sections discuss further details on the use of redistributed equipment and other smart business practices.

III. Equipment Availability to Meet Mobilization Requirements for FY 2004

This report answers the question as to how well the Reserve components are equipped to meet mobilization requirements during the next three years. To evaluate this condition, *Chart 2* on the next page provides the percentage of wartime required equipment identified in the NGRER which is expected to be in RC inventories at the end of FY 2004. The percentages take into account new equipment deliveries through the end of FY 2004. These

percentages are based upon dollar-values to assist the Department of Defense and Congress in budget preparation. They include authorized substitute equipment for Services, where appropriate, as this reveals a more accurate picture of equipment anticipated to be available to the RCs in the event of war. However, the dollar-value of excess items of equipment is not used to offset shortages of other equipment.

Chart 2
Equipment Available to Meet Mobilization Requirements
(Includes Authorized Substitutes)

Reserve Component	FY 2004
ARNG	86%
USAR	77%
USMCR	99%
USNR	90%
ANG	99%
USAFR	99%
USCGR	99%
Overall	**93%**

FY 2004 calculations are based upon *Table 1* data included in this report.

The data above suggests that overall RC equipment inventories will be 93 percent in place to satisfy FY 2004 mobilization requirements given delivery of planned procurements. The lower percentage in the USAR suggests that some RCs still have critical shortages of major equipment, especially for late deploying combat support/combat service support units.

IV. Equipment Shortages

The Reserve components provided an overall dollar-value of all required equipment shortfalls, excluding substitutes, which are highlighted in *Chart 3* on the next page. The combined total of all these shortfalls is approximately $10.2 billion or 8 percent of all RC required wartime equipment.

Chart 3 indicates that the greatest percentage of equipment shortages is found in the Army. This is consistent with previous reports and is a result of the magnitude of different types, quantities and models of equipment currently in the Army inventory. The Army also has several initiatives, which will affect equipment requirements, such as the Army National Guard Division Redesign (ADRS) and the emerging Army Transformation initiative. ADRS will convert the equivalent of two combat divisions to combat service support and require significant equipment conversions across the next seven to ten years.

Chart 3
FY 2001 Reserve Component Equipment Shortages
(Excluding Substitutes)

Reserve Component	Total Value of Equipment Requirements	Total Value of Equipment Shortages	Percent Short
ARNG	39,725,339,006	7,633,179,746	19.2%
USAR	7,761,721,000	1,766,060,000	22.6%
USMCR	6,794,382,570	50,083,240	0.7%
USNR	17,078,203,813	426,832,000	2.5%
ANG (1)	39,993,600,000	261,700,000	0.7%
USAFR (1)	15,791,400,000	67,500,000	0.4%
USCGR	13,785,100	6,751,500	48.9%
Total	**$127,158,431,489**	**$10,212,106,486**	**8.0%**

(1) No change from FY 2000.
All other values have been provided by RCs based upon equipment currently on-hand.

V. Equipment Procurements Programmed to Fill Current Equipment Shortages

The Services program for new equipment in the President's Budget annually. The exhibit in the President's Budget that deals with RC equipment is called the P-1R. *Table 3* (located at the end of each RC narrative section, Chapters 2-6) depicts the programmed procurements for the FY 2002 thru FY 2004 timeframe. Equipment normally begins to arrive in the RC inventory one to two years after appropriation; consequently, the FY 2002 procurements should begin arriving in FY 2003 and FY 2004.

Service procurements in the past have not been sufficient to maintain RC equipment on-hand readiness. As a result, Congress has provided additional funds, specifically for the RC, in the National Guard & Reserve Appropriation (NGREA). *Table 4* (located at the end of each RC narrative section, Chapters 2-6) depicts specified aircraft and miscellaneous equipment procurements using NGREA funds appropriated in FY 1999 thru FY 2001. Since NGREA is not budgeted by the Services, there are no figures beyond the current budget period. As with other procurements, there is a one to two year lag for the RC to receive equipment once funds are appropriated.

Chart 4 on the next page compares funding from all sources for the RCs for FY 1997 thru FY 2001, and budget estimates for FY 2002. The annual totals show a slight increase overall since 1997. Despite a shift away from NGREA, the total dollars available for RC equipment procurement remains fairly constant around $2-2.7 billion. The chart depicts that the Services have significantly increased RC procurement requests in the President's budget, which is a direct result of the Total Force Policy established in 1997 by the Secretary of Defense.

Annual RC equipment procurements have increased RC readiness of on-hand equipment but have not kept pace with the need to re-capitalize older RC equipment and

modernize existing equipment. In the FY 2001 NGRER, RC equipment shortages were projected at $9.2 billion. This year the projection is approximately $10.2 billion, $1 billion higher than last year. This increase, while large in dollar-value, reflects only an 0.8 percent gain compared to the total value of all equipment requirements. It also reflects that the annual equipment procurements are not keeping pace with the need for new and more modern equipment in the RCs.

Chart 4
Reserve Component Procurement Funding Comparison
($ in Millions)

		ARNG	*USAR*	*USNR*	*USMCR*	*ANG*	*USAFR*	*Total*	Grand Total
FY 1997	President's Budget P-1R Submit	218.70	48.30	36.60	69.40	287.50	109.20	769.70	
	Congressional Adds to AC Accts for RC	74.10	0.00	45.00	0.00	100.50	165.90	385.50	
	NG&RE Procurements	100.80	113.70	199.70	102.80	224.30	39.60	780.90	
	TOTAL	**393.60**	**162.00**	**281.30**	**172.20**	**612.30**	**314.70**		**$1,936.10**
FY 1998	President's Budget P-1R Submit	284.40	120.60	39.00	17.90	242.40	84.90	789.20	
	Congressional Adds to AC Accts for RC	244.00	8.00	96.90	0.00	95.10	132.85	576.85	
	NG&RE Appropriation	68.80	73.70	78.70	73.70	302.90	49.20	647.00	
	TOTAL	**597.20**	**202.30**	**214.60**	**91.60**	**640.40**	**266.95**		**$2,013.05**
FY 1999	President's Budget P-1R Submit	502.60	158.10	45.40	39.90	263.30	115.10	1,124.40	
	Congressional Adds to AC Accts for RC	224.30	9.50	53.00	0.00	129.80	75.40	492.00	
	NG&RE Appropriation	20.00	20.00	60.00	20.00	212.00	20.00	352.00	
	TOTAL	**746.90**	**187.60**	**158.40**	**59.90**	**605.10**	**210.50**		**$1,968.40**
FY 2000	President's Budget P-1R Submit	661.10	176.00	77.40	56.90	334.10	149.20	1,454.70	
	Congressional Adds to AC Accts for RC	267.10	12.00	35.60	2.80	270.80	17.60	605.90	
	NG&RE Appropriation	29.84	29.84	19.90	19.90	29.84	19.90	149.21	
	TOTAL	**958.04**	**217.84**	**132.90**	**79.60**	**634.74**	**186.70**		**$2,209.81**
FY 2001	President's Budget P-1R Submit	884.42	174.32	34.74	43.69	326.98	127.60	1,591.75	
	Congressional Adds to AC Accts for RC	287.71	115.32	105.80	0.00	505.65	0.00	1,014.48	
	NG&RE Appropriation	49.54	4.95	4.95	4.95	29.72	4.95	99.06	
	TOTAL	**1,221.67**	**294.59**	**145.49**	**48.64**	**862.35**	**132.55**		**$2,705.29**
FY 2002	President's Budget P-1R Submit	925.60	181.50	24.20	77.50	377.90	108.80	1695.50	
	Congressional Adds to AC Accts for RC								
	NG&RE Appropriation								
	TOTAL								

Note 1: USNR figures include USMCR aircraft procurement funds.
Note 2: The above figures do not include Ammunition procured for the RC.

VI. Status of Current Reserve Component Equipment

An analysis of current equipment in the RC requires a look at several interrelated factors, such as age of equipment, compatibility, maintenance, modernization shortfalls and overall equipment readiness.

Based upon the Total Force integration policy, the Reserve components have seen growth in OPTEMPO and participation in on-going military operations. This requires the

RCs to deploy with key equipment or to fall-in on pre-positioned equipment. Some of the RCs are seamlessly integrated and train on the same modern equipment as their Active component counterparts, while other RCs are struggling with compatibility and interoperability issues due to the magnitude of different types/models of equipment and cost of upgrading. The overall integration of the RC and AC is a delicate balancing act as requirements often outstrip available resources.

In many of the RCs a large portion of their equipment was received by cascading older equipment models from the AC to the RC as the AC received newer and more modern equipment. This transfer, although improving equipment on-hand readiness, created a host of maintenance and compatibility issues related to equipment age and modernization. The RCs often face the dilemma of receiving the AC's most aged equipment and of not having adequate resources to repair and maintain it in proper warfighting condition. Equipment cascaded to the RCs is often at or beyond its original service life age, at time of transfer, and requires extensive overhaul to extend its service life. These repair and rebuild programs are costly and cause the RCs to expend larger portions of their operations and maintenance dollars. Compounding this problem is the shortfall in RC full-time manning support, notably maintenance supervisors and technicians, needed to properly inspect the aged equipment upon receipt, and to properly maintain the equipment after the transfer. To help alleviate the problem, the Army is looking to establish a depot rebuild program to rebuild cascaded equipment prior to RC hand-off.

Equipment modernization is an especially important issue for the RCs. In the past, RC units have been precluded from being mobilized because they did not have the most current model of equipment. This is especially true with aircraft that employ high tech instrumentation for navigation and armament delivery. This shortage of modern equipment is characterized by the term *modernization shortfall*, which addresses a totally different issue from equipment on-hand shortages. The list below highlights some of the modernization shortfalls identified in this report by the RCs.

ARNG

- UH-60 Blackhawk Helicopters
- M2/3A3 & M113A3 Vehicles
- Armored Vehicle Launch Bridge
- Medium Tactical Vehicles (FMTV)
- Utility Vehicles (HMMWV)
- Communication/Digitization

ANG

- F-15 A/B Fighter Defense Link
- F-15 C/D Engine Upgrades
- Stage III Noise Reduction

USAR

- CH-47 Helicopters
- AH-64D Apache Longbow
- Medium Tactical Vehicles (FMTV)
- Utility Vehicles (HMMWV)
- UH-60 Blackhawk Helicopters

USNR

- CH-60 Helicopter
- C-40A Transport Aircraft
- P-3C Update III Kits
- F/A 18A Upgrade Kits
- Information Technology Infrastructure

USMCR	USAFR
F/A-18A Upgrade Kits	C-130 Avionics Modernization
CH-53E Helicopters	KC-135E PACER CRAG
KC 130T Avionics Mods	C-141 Aircraft Radios

Age and condition of equipment produce more than modernization shortfalls. For example, equipment such as trucks, armored personnel carriers and support equipment are older in many cases than their drivers. They require considerably more maintenance and repair parts as they age. Body metal rusts out, seals begin to leak, and engines fail. Maintenance costs increase and reliability decreases. Services have programmed for replacement vehicles and upgrades, but full replacement of the RC fleets will stretch far beyond the Future Years Defense Plan (FYDP). RCs have initiated service life extension programs and partnered with industry in creative ways to leverage funding for interim solutions. In the meantime, many units must cross-level equipment in order to meet mobilization requirements for deploying units.

VII. Compatibility and Interoperability

According to Joint definitions, *interoperability* is the ability of systems, units or forces to operate effectively together. *Compatibility* is the capability of two or more items of equipment to function in the same system or environment without mutual interference.

Department of Defense policy directs all Active and Reserve units that fight together be equipped with sufficient quantities of compatible and interoperable equipment. Measurement of compatibility between equipment items and systems forms a continuum ranging from non-interoperable and incompatible to identical equipment. Since identical type/model/series equipment is not always affordable, the Services use a variety of approaches to increase compatibility.

Today, Active and Reserve units are frequently equipped differently, even when they are organized to accomplish the same or similar combat mission. Due to the high cost of modernization, the fielding of weapon systems frequently stretches over a number of years. As a consequence, Reserve units are frequently equipped with less modern equipment than their Active counterparts. This disparity occurs across all Services to varying degrees and raises concerns that Reserve units may be incompatible with their Active counterparts.

To assess this disparity, the Office of the Assistant Secretary of Defense for Reserve Affairs asked the Logistics Management Institute to conduct an independent study of Reserve component equipment compatibility. Key conclusions of this study are summarized below:

- Capability shortfalls are a greater detriment to RC unit deployment than equipment compatibility.

- The core issue is that less modern equipment frequently makes RC units less capable than their AC counterparts.

- Perceptions of incompatibilities are widespread and greatly exceed the facts.
- Potential is high throughout the Services to create new incompatibilities in the future, given the various transformations occurring today.
- Today's incompatibilities should not suppress tomorrow's developments.
- Incompatibility problems are likely to persist.
- Doctrine and fielding concepts may provide interim solutions to the incompatibilities of today.

Overall, this study concluded that despite the widespread perception that many RC equipment items are incompatible with AC equipment items, the facts do not support these assertions. However, of the 79 RC equipment items examined for this study, a total of nine incompatibilities were found: six in the Army, two in the Navy and one in the Marine Corps. The incompatible items identified in order of severity are in the *Chart 5* below.

Chart 5
Incompatible Reserve Component Equipment

Equipment Item	**Level of Incompatibility**	**RC**
M113A2 Armored Personnel Carrier	Serious	ARNG
M1/M1IP Tank	Serious	ARNG
F/A-18A Aircraft	Serious	USNR
F/A-18A Aircraft	Serious	USMCR
SH-2G LAMPS Helicopters	Serious	USNR
M911 Heavy Transporter System	Serious	ARNG
5-ton Wrecker	Less Serious	ARNG
VRC-12 Radios	Less Serious	ARNG/USAR
Night Vision Devices	Less Serious	ARNG

VIII. Summary and Conclusions

As stated previously, Reserve component equipment on-hand readiness is slowly but steadily improving. Services are programming larger portions of their procurement budgets for Reserve equipment, and integrating the Reserve components more and more into current operations and plans. Overall, the Total Force Policy of the Secretary of Defense is working.

Despite these improvements, the Reserve components still have challenges that interfere with being fully interoperable and compatible with their Active component counterparts. Modernization shortfalls and aging equipment are a fact of life, and it is expensive to maintain and repair the aging equipment.

The RCs are expected to receive approximately $2.7 billion in FY 2001 for equipment procurement, which will increase equipment on-hand readiness. However, the dollar-value of equipment shortfalls continues to rise, especially in the Army, due to the attrition of aging equipment and the influx of new equipment not yet fielded to the RCs.

Chapter 2
United States Army Reserve Components

I. Army Overview

a) Overall Army-wide Planning Guidance: The National Military Strategy (NMS) of the United States provides strategic guidance to fight and win two nearly simultaneous Major Theater Wars (MTW). Defense planning directs the Army to program sufficient forces to implement the NMS. Inherent in the Army's ability to support this strategic guidance is the integration of the Active component (AC) and the Reserve components (RC) into a force capable of multiple, synchronous, and compatible missions across the continuum of military operations. Early access to RC combat support (CS) and combat service support (CSS) units is essential to project Army forces to the theater of operations and sustain the operational tempo in the theater(s).

The Army plan places combat forces and various support units into force packages (FP) designed to support the warfighting requirements of the combatant Commanders-in-Chief (CINC). Currently, there are four force packages (FP 1 to 4) and two associated force support packages (FSP) 1 and 2. These force packages are funded by the first-to-fight, first-to-resource methodology that prioritizes programming and resources. These force packages also drive the Department of the Army Master Priority List (DAMPL), Army Acquisition Objective, and modernization plans.

The Army National Guard (ARNG) and the United States Army Reserve (USAR) provide CS/CSS units to the theater of operations through FSPs. FSP 1 is designed to deploy and support 4 1/3 divisions, echelon above division (EAD) and echelon above corps (EAC) units for one Corps, and the support elements to open one theater. This includes those forces essential to support forcible entry operations and the Continental United States (CONUS) support base required for mobilization and deployment. FSP 2 supports the deployment of one additional CONUS division, EAD/EAC for a second Corps, remaining theater support elements for the initial theater, and essential theater opening elements for a second theater. The remaining Reserve CS/CSS units are aligned with strategic force packages based on latest arrival date in the theater of operations.

The AC may require early access to specialized RC units for stability and support operations, for deployment and sustainment operations, and for tailored rotational contingency requirements as evidenced in Bosnia.

The Army has three methodologies for improving equipment readiness:

(1) Modernization: The development and/or procurement of new systems with improved war fighting capabilities.

(2) Recapitalization: The rebuild and selected upgrade of currently fielded systems that ensures operational readiness and zero time/zero mile systems. There are two programs that

accomplish this--rebuild and selected upgrade. Rebuild restores the system to a like new condition in appearance, performance, and life expectancy; and inserts new technology to improve reliability and maintainability. Selected upgrade is the rebuild of a system that adds war fighting capability improvements to address capability shortfalls.

(3) Maintain: The repair or replacement of end items, parts, assemblies, and subassemblies that wear or break. (Organizational, intermediate, and depot maintenance.)

b) Army Equipping Policy: The Army Equipping Policy (AEP), as stated in a Headquarters, Department of the Army (HQDA) memorandum, provides guidance for equipping all Army units. The AEP addresses modernization, force structure, readiness requirements, and provides policy that guides the distribution of equipment throughout the Army.

The Army equipping goal is to produce fully equipped and modernized deployable forces capable of performing as components of a unified command or joint task force.

The AEP balances Army readiness against the needs of early deploying units by directing a two-step approach to distribution. First, the Army ensures that all readiness-reporting units have sufficient equipment to meet minimum readiness standards. Then, the Army fills unit requirements in first-to-fight/first-to-resource order in accordance with the DAMPL, as amended by Army Orders of Precedence, or approved out of DAMPL sequence fielding to support operational requirements based on unit missions.

c) Army Plan to Fill Mobilization Shortages in the RC: During a large-scale mobilization, the Army will employ the most practical and efficient means of redistribution. This includes issue of serviceable warehouse stocks, repair of unserviceable items, procurement and substitution of commercial equipment, cross-leveling of any unit excess or equipment left behind by deploying units receiving pre-positioned equipment, and unserviceable equipment which can be repaired quickly, including depot work-in-progress, National Inventory Control Point stocks, and new procurement.

Upon mobilization notification, all Army units will update equipment on-hand data in the Army master database called the Continuing Balance System-Expanded. This data, when matched against requirement documents by material management centers, will highlight equipment shortages and excesses. Orders for lateral transfer and material release orders will then be issued. Each level of command will perform redistribution from within its own resources before forwarding unfilled requirements to the next higher echelon. HQDA will issue prioritization guidance for all AC and RC units based on the needs of the warfighting CINCs, with consideration for modernization, interoperability, and readiness.

The Army's plan to fill shortages within a mobilizing unit would follow the below path:

- Alerted unit headquarters would attempt to cross level within its units.
- Major Area Command would attempt to locate resources.
- Army would either release stocks from depot assets or direct distribution of assets via out of DAMPL sequence fielding.

d) Current Army Initiatives Affecting RC Equipment: The Secretary of the Army and Army Chief of Staff have restated the Army's Vision: "Soldiers on Point for the Nation, transforming the most respected Army in the world into a strategically responsive force that is dominant across the full spectrum of operations." As this vision evolves, the Army will transition to a lighter, more mobile force. As force structure, doctrine, technology, and equipment evolve in support of this vision, the strategies associated with equipping the Reserve components will likewise change. These impacts will be addressed in future reports. Below are a few ongoing initiatives impacting the Army.

(1) Army Transformation: The Army will begin transforming to a force that is strategically responsive and dominant at every point on the spectrum of military operations. It will provide the Nation an array of responsive, deployable, agile, versatile, lethal, survivable, and sustainable formations. These formations are affordable and capable of providing the war fighting CINCs with options for small-scale contingencies that do not compromise readiness for two nearly simultaneous MTWs.

Transformation incorporates three major objectives:

(a) The Initial Force is a two-brigade force at Fort Lewis using off the shelf equipment. These units will evaluate and refine the Operation and Organization concept for a brigade combat team and develop tactics, techniques, and procedures. This will generate the lessons learned and insights to quickly develop the Interim Force.

(b) The Interim Force is a transition force that fills a capability gap that exists today. It develops the Objective Force to the maximum extent feasible, but leverages today's state-of-the-art technology together with modernized legacy forces as a bridge of the future. It seeks the characteristics of the Objective Force within the constraint of available and emerging doctrine and technology.

(c) The Objective Force achieves the Army's Vision. The Objective Force will be organized around a common divisional design, allowing interchangeable full spectrum capability. Division and Corps level headquarters set the conditions for and integrate all elements of the joint/multinational/interagency force, directing and supporting the operations of its maneuver and fighting units through inter-netted linkages to joint C4ISR and joint effects. Army operational headquarters will incorporate versatile capabilities that will enhance command and control options for the war fighting CINCs.

(2) Revolution in Military Logistics: The Revolution in Military Logistics (RML) represents a continuous process of transformation of Army Logistics to enable strategic responsiveness across the mission spectrum. It synchronizes the Army's logistics transformation strategy. RML is an integral part of the Army Vision. It emphasizes a radical change in force projection and sustainment through CSS transformation. Specific requirements include: enhancing force deployment; reducing theater footprint; reducing logistics demand; and streamlining logistics processes and organizations.

Since its beginning in 1997, the RML has focused primarily on process, encompassing initiatives in automation, communications, platforms, business process change, organizational redesign, strategic mobility, and technology insertion. Near and mid-term enablers include a single Army-wide logistics provider, split-based operations, improved battlefield distribution, total asset visibility, and leveraging near-term technologies.

Consistent with the Army Vision and the Army Transformation Strategy, RML in the long term focuses on migration to a fully integrated information infrastructure that enables readiness-based, platform-centric logistics management on a global basis. The key issue will be to meet the deployment milestones of the Vision, while at the same time reducing the demand for strategic lift and the logistics footprint in the tactical battle space. This will require further reengineering of business processes, improved distribution platforms, enhancing the deployment process, advanced strategic and intra theater lift capabilities, and technologies that contribute to reduced logistics demand.

RML links directly to concepts in Joint Vision 2010/2020 and logistics transformation strategies outlined in the Department of Defense Strategic Logistics Plan and Department of Defense Reform Initiative Directive 54. The Army Strategic Logistics Plan is the implementation strategy for the RML.

(3) Multi-Component Units: A multiple-component unit (MCU) combines personnel and/or equipment from more than one component on a single authorization document. The intent is to maximize integration of Active and Reserve component resources. MCUs have unity of command and control similar to that of single component units. MCU status does not change a unit's doctrinal requirement for personnel and equipment, force packaging, or tiered resourcing. No limit has been established for the number of units that may become MCUs, with the concept available to both Active and Reserve component units. MCU selection is based on mission requirements, unique component capabilities and limitations, readiness implications, efficiencies to be gained, and the ability and willingness of each component to contribute the necessary resources.

As of November 2000, there are 97 units identified as proposed MCUs through FY 2007. The Army Reserve will be the flag holder for 28 units and will provide 44 elements for other MCUs. The ARNG is slated to be the flag holder for three units and will provide nine elements for other MCUs. Both the USAR and ARNG will also participate in fourteen MCUs consisting of all three Army components. These numbers will change as the program continues to grow.

(4) Army National Guard Division Redesign Study (ADRS): The Secretary of the Army approved the ADRS plan to convert twelve ARNG combat brigades and slice elements from two ARNG divisions to required CS/CSS structure. The plan will convert approximately forty-eight thousand personnel assigned to combat force structure to CS/CSS force structure. A force feasibility review confirmed the conversions recommended by TOTAL ARMY ANALYSIS (TAA) 07 Resourcing Conference Council of Colonels. ADRS is included in all Force Validation Committee reviews.

Approximately $2 billion has been programmed to resource Phases 1 and 2 of ADRS. Additional resources will be identified and applied in future budgets by FY 2009. The Army's ongoing CS/CSS Transformation Study will determine the types and number of units available for Phases 3 and 4.

(5) Force XXI: Army XXI is the process to build America's Army for the 21st Century. The III Corps has been designated as the first digitized corps and is an initial step to Army XXI. The digitization of its heavy divisions provides progression toward Division XXI. These divisions as well as the Corps will include RC elements from the ARNG and the USAR. Current Army plans call for an RC slice in each division of approximately 236 soldiers. This slice consists of both MCUs and dual-missioned ARNG units. It will provide Army battle command systems such as the Maneuver Control System and Force XXI Battle Command Brigade and Below appliqué to these divisions and corps slice elements.

e) Army Plan to Achieve Full Compatibility Between AC and RC: The Army maintains a doctrinally integrated series of organizational designs for the purpose of achieving operational compatibility between types and echelons of units. Every effort is made to equip and modernize the AC and RC so that they remain an integrated team. Due to constrained resources, incremental improvements have been established based on the first-to-fight/support principle.

The budget trend over the last few years was positive because National Guard & Reserve Equipment Appropriation (NGREA) funds were used to reduce equipment shortages in high priority units when Army procurement money was exhausted. Given the trend of reduced NGREA funding since 1998, the Army has budgeted more in their annual budgets for the RC and Congress has added more money to active accounts for Reserve specific equipment. Despite these increases, the RC still has significant equipment shortages, especially in the most modern equipment. Consequently, the RC must increasingly rely on limited overhaul and rebuild programs of existing equipment to retain mission capabilities. One example is Recapitalization.

Recapitalization is the rebuild and selected upgrade of currently fielded systems to ensure operational readiness and a zero time/zero mile system. The objectives of recapitalization include: extending the service life; reducing operation and supporting cost; improving reliability, maintainability, safety, and efficiency; and enhancing capability.

Recapitalization may include pre-planned product improvements (P3I), extended service programs (ESP) and major modifications. However, these programs do not constitute recapitalization unless the system is restored to a zero time/zero mile condition.

Since 1997, the ARNG and USAR procurement has been included in the Future Years Defense Program (FYDP). This ensures visibility of funds for improvements in equipment compatibility between the AC and RC.

f) Equipment on Hand (EOH) Substitutes: The equipment on hand in *Table 1* includes authorized substitute equipment. Substitute line item numbers (LIN) are reported as assets on-hand and are included in equipment totals for unit status reporting purposes. Army regulations describe authorized substitutes as any piece of equipment that is able to perform the

same function and purpose as the authorized equipment. If substitute items of equipment are used, they are listed along with the quantity and item substituting for the prime LIN in *Table 7*.

Having an authorized substitute item as on-hand equipment does not exempt the unit from having the authorized equipment on a valid requisition. Therefore, the requirement for the authorized item is still valid. Inclusion of authorized substitutes tends to skew the shortages of primary equipment, but better depicts a more accurate equipment status of the Army Reserve components. Without the use of authorized substitute equipment, the Army's equipment posture, to include both Active and Reserve, would be degraded.

g) Summary and Conclusion

During the past several years the ARNG and USAR have been called upon to provide individuals, units and equipment to support on-going military missions and peacekeeping operations. These RC units have served side-by-side with AC units. In fact, the 49th Infantry Division, Texas Army National Guard, served as the command element in Bosnia for a recent six-month rotation, commanding both RC and AC elements. These RC elements have performed in an outstanding fashion.

In order to get these units ready for deployment, the Army had to cross-level equipment, step up training, and, in some cases, provide more modern equipment in order to get these RC units ready for deployment. However, if a full-scale military operation were to occur, RC units would have to "come as they are." In other words, RC units would bring the equipment currently in their inventories. This means that RC units, in many instances, would bring significantly older equipment of both reduced capability and less reliability to the war fight. Equipment, in many cases, would be many years past its useful life, especially in the CS/CSS arena. Furthermore, repair parts inventories, which have been reduced under cost saving measures during the past several years, are not available for this outdated equipment.

This scenario demonstrates that RC units are still not fully equipped to meet the readiness requirements of the NMS, as identified in 1996 by the Assistant Secretary of Defense for Reserve Affairs. Although, the Army has made significant strides to better equip the Guard and Reserve, there are still significant equipment disparities between the AC and the RC. To make matters worse, depot maintenance accounts are not funded at full requirement, the new Army Recapitalization program has a $7.5 billion unfunded requirement, and war reserves secondary items, the parts required for CSS units to fulfill mission requirements, are funded at only a fraction of the requirement.

Modernization and funding of CS/CSS equipment is repeatedly decremented in favor of combat equipment. Since both the Guard and Reserve have significant portions of the CS/CSS force structure, it is clear that funding for this requirement is seriously lacking. For example, both the ARNG and USAR only have 46/50 percent, respectively, of the military technicians necessary to maintain their equipment, and many of the older CS/CSS major equipment items are not even being considered for the Recapitalization initiative.

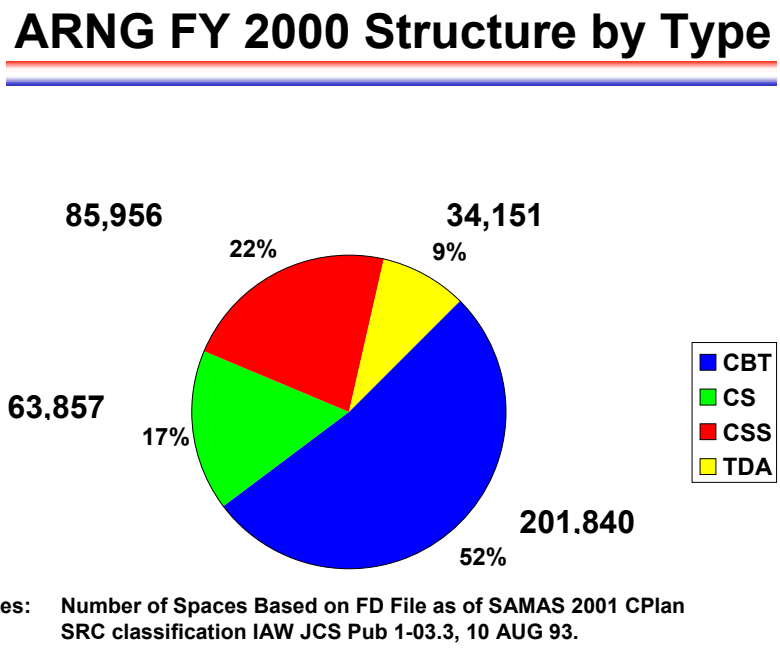
The bottom line question is: Are the Reserve Components ready for war? The bottom line answer is: The lack of modern CS/CSS equipment for the RCs can have a significant impact on the Army go to war capability. From an equipment perspective the RCs have significant risk in executing the NMS.

II. ARMY NATIONAL GUARD OVERVIEW

a) Current Status of the Army National Guard

(1) General Overview: The ARNG equipment on-hand readiness posture improved in the last year, but complete equipment commonality with the AC is years away. The ARNG is rapidly moving to modernize equipment through new equipment fielding, displaced equipment fielding, and repair programs that repair unserviceable equipment.

An example of the ARNG composition follows:



Notes: Number of Spaces Based on FD File as of SAMAS 2001 CPlan
SRC classification IAW JCS Pub 1-03.3, 10 AUG 93.

Major Army Programs such as Phase I of Division XXI, MLRS Conversion, Aviation Restructuring Initiatives and the ADRS are continuing to modernize the ARNG to more closely mirror the legacy Army force. The proposed budget for FY 2002-2007 continues to fund these programs. The drop in procurement funding for the ARNG from the mid 1990's has begun to reverse but the procurement and delivery of this equipment extends well beyond the current FYDP. This extended program continues the modernization gap between the active Army and the ARNG and extends the service life requirements for current equipment in the force structure.

The Army's decision to delay updates to the existing legacy systems such as the Crusader, Wolverine, and Hercules in the AC decreased the anticipated cascade of more modern equipment to the ARNG. Cascading allows the ARNG to purge itself of obsolete and older model systems.

(2) Status of Equipment

(a) Equipment On-Hand (EOH): Although the ARNG continues to receive new and cascaded vehicles to maintain its fleet, the inventory still contains old equipment that cannot perform to modernized equipment standards of the AC. As the ARNG continues its partnership with the AC on deployments to South West Asia, the Balkans, Training Centers, and other "hot spots" in the world, it steadily shuffles equipment within the ARNG to insure it can meet mission requirements. Occasionally, equipment density lists have to be adjusted. The AC generally provides support requirements for deployed ARNG units and may not carry the authorized stockage lists of repair parts to sustain the older equipment. Local purchase may not be an option and parts have to be requisitioned and shipped from home station. The time lag associated with this process poses a problem for commands. Numerous ARNG systems require modernization, which are creating operational and logistical support issues that need to be remedied. The top shortages not funded for procurement are shown in *Table 8*.

(b) Average Age of Major Items of Equipment: Current programs are slowly modernizing, but the resources needed to meet all requirements are not keeping pace. Funding decrements in major programs routinely cut ARNG fielding. The consequence is EOH continues to age at a faster rate than modernization allows, which increases maintenance costs and the technology gap with the AC. The limited modernization and availability of cascaded equipment forces the ARNG to continue operating equipment on the Army's Automatic Disposal List. Much of the cascaded equipment going to the ARNG has already exceeded one-half of its expected service life (ESL) (see *Table 2*). *Chart 1* lists systems that require replacement; however, ARNG units are reluctant to dispose of this older equipment due to the fact that it may be the only equipment available for training soldiers.

Chart 1
ARNG EQUIPMENT REQUIRING MODERNIZATION

NOMENCLATURE	QTY	REPLACEMENTS
AN-VRC 12 Series Radios	27,667	SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINCGARS)
ATTACK HELICOPTER (AH-1)	358	AH-64A/D
AVLB	377	AVLB WITH 70 TON CAPABILITY
COMBAT UTILITY COMMERCIAL VEHICLE (CUCV)	9,129	HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE (HMMWV)
M1/M1IP TANK	354	M1A1/HA TANK
M2/3 BRADLEY FIGHTING VEHICLE (BFV)	403	M2/3A2ODS BFV
113A2 ARMORED PERSONNEL CARRIER (APC) FAMILY OF VEHICLES (FOV)	4,933	M113A3 FOV or BFV
M102 (105MM) HOWITZER	244	M119 (105MM) HOWITZER
M109A5 HOWITZER	252	M109A6 PALADIN/FASSAV
OBSOLETE 2 ½ TON TRUCKS	15,003	LIGHT MEDIUM TACTICAL VEHICLE, FMTV FAMILY OF VEHICLES

Chart 1 continued

ARNG EQUIPMENT REQUIRING MODERNIZATION

NOMENCLATURE	QTY	REPLACEMENTS
OBSOLETE 5 TON TRUCKS	1,171	MEDIUM TACTICAL VEHICLE, FMTV FAMILY OF VEHICLES
OBSOLETE HEAVY EQUIPMENT TRANSPORT (HET) (M747/M911)	300	M1070/M1000 HET
PVS-5 NIGHT VISION GOGGLES	10,349	PVS-7B
UTILITY HELICOPTER (UH-1) HELICOPTER	621	UH-60A/L/Q

(c) Compatibility of Current Equipment with the AC: Most of the ARNG equipment is compatible with the AC. Although a technology gap of the equipment exists (see *Chart 2*), a major operation such as Operation DESERT STORM would require the ARNG to deploy with current equipment. Smaller deployments to the Balkans, Central America, South America, disaster relief operations, and others would require extensive realignment of equipment in the ARNG to ensure deployed equipment would be compatible with the AC for sustainment. Incompatibility of older equipment impacts logistics in the following ways:

- The theater has to support both the older and newer generation of equipment.
- Units must stock repair parts for all systems at all levels of maintenance.
- The mix of old and new requires additional repair skills for maintenance personnel.
- Older systems have a higher failure rate and greater frequencies of repair.
- Requisitioning of parts for obsolete equipment may challenge the supply system and adversely affect the readiness of units.

Chart 2
ARNG Non-Compatible Equipment Examples

Older Type	Newer Type	Incompatibility	Scope	Fix Date
M1/M1IP	M1A1	Main Gun, VRC 12 Radios	32% of Armor/CAV Structure	FY 2005
M911/M747 HET	M1070/M1000	Cannot Carry M1A1 Tank	11% ALL ARNG Divisions	TBD
M113A2 FOV	M113A3 FOV	Speed, VRC-12 Radios, Night Vision	22% of Mech Inf/CAV Structure	TBD
AN VRC 12 Radio	SINCGARS	Degraded Security	27% of Tactical Radios	FY 2004
5 ton Wrecker	10 Ton Heavy Expanded Mobile Tactical Truck (HEMTT) Wrecker	Cannot Recover 10 Ton Vehicle	17% of Authorized Structure	FY 2005
No Substitute	Enhanced Position Location and Reporting System (EPLRS)	Command and Control for Air Defense Artillery (ADA)	27% of ADA Structure	TBD
Night Vision Goggles (NVG) PVS-5	NVG PVS-7	Limited Range for Infantry	35% of NVG Requriement	TBD
Obsolete Equipment/ Equipment on the Army's ADL		Not fully supportable by Logistics System, Less Capable, Special Management Issues	140 ton Crane, 20 Ton Dump Truck, M35 2.5 Ton Truck, CUCV, 25 Ton Crane, Fire Truck, M800 Series Maintenenance Contact Truck, M17 Protective Masks, Trailers, etc.	TBD

* Scope is in comparison to the total Army.

(d) Maintenance Issues: The ARNG depot maintenance program is projected to be funded at 63 percent (1 percent above Army overall funding) of its total requirement for FY 2002. Funding for early deployers, to include the enhanced separate brigades (eSB), is 80 percent of total requirements. Funding for late deployers is 48 percent of total requirements.

The ARNG depot maintenance program is based on a "repair and return to user" premise utilizing Army Material Command depots and the commercial industrial base. The repair and return program requires the owning unit to ship the item to depot for as many as 12 months. The ARNG does not have maintenance float assets. This emphasizes the importance of timely repair of ARNG equipment at the various repair activities.

ARNG funding for the category known as other equipment is $50.2 million or 58 percent of the overall ARNG requirement in FY 2002. This funding supports depot maintenance of calibration, construction, engineering equipment, weapons/armament, watercraft, as well as maintenance of Tactical Wheeled Vehicles (TWV).

The ARNG Readiness Sustainment Maintenance Sites (RSMS) continue to be the only TWV sustainment program meeting the needs of the ARNG fleet. The ARNG continues to seek sole authority to fund maintenance to fit its specific needs and priorities.

In 1997, the five RSMS sites grew out of a successful program to assist the Army in recovering equipment returned to the United States from Operation DESERT STORM and the downsizing in Europe. Under these programs, the Army paid the ARNG to refurbish equipment for eventual redistribution to the Army. Now, with these programs completed, the ARNG decided to continue its success by including ARNG equipment and cascaded Army equipment destined for the ARNG into these programs. Some of this equipment, particularly the tactical truck fleet, will not be modernized with the latest systems for ten or more years, with most of these trucks already in use for 15-20 years. Consequently, there is a great need to refurbish and restore these vehicles increasing the equipment training and readiness posture for our soldiers. The ARNG supports the capability of these sites to perform internal ARNG TWV sustainment, directly enhancing the readiness and EOH levels of the ARNG.

ARNG depot maintenance for aircraft is funded at 69 percent of requirements in FY 2002. ARNG depot funding for Communications-Electronics (C-E) Equipment is funded at 66 percent of total requirements. Depot funding for combat vehicles is funded at 58 percent of total requirements. Depot funding for missile systems is funded at 62 percent of total requirements.

(e) Army National Guard Modernization Programs and Shortfalls: Through the budgeting process, the ARNG has seen improvements in fleet modernizations. However, these improvements do not place the ARNG's equipment posture parallel with their AC counterparts. Identified below are various systems considered to be in most need of modernization and/or readiness improvement through filling of equipment shortages.

1. Aviation: The ARNG is moving toward a fundamental restructuring of aviation organizations. This effort is designed to make the force more relevent to contingency/force projection operations. The execution of this plan relies on continued procurement and fielding of modernized aviation end items such as RAH-66 Comanche, AH-64D Apache Longbow, UH-60M Blackhawk, and CH47 Chinook aircraft.

a. Attack Aircraft: The attack helicopter requirement for the ARNG shifts from pure fleet battalions to components of multifunctional battalions. The ARNG supports retiring the AH-1 Cobra legacy system but will require cascaded AH-64 aircraft to maintain divisional attack companies at minimum operational levels of fill. Fielding AH-64D to replace AH-64A is the logical modernization solution.

b. Reconnaisance Aircraft: Under the ARNG Aviation Transformation and Modernization Plan, reconnaissance companies come into existence. The aircraft required for these units is the RAH-66 Comanche. Current plans are for the obsolete Observation Helicopter OH-58C to fill the gap until such time as Comanche arrives. As Comanche is fielded to the AC, the ARNG supports cascading displaced OH-58D aircraft to ARNG reconnaissance units allowing the OH-58Cs to be retired, which avoids recapitalization cost.

c. Utility Aircraft: Perhaps the greatest challenge to ARNG Aviation is the status of the utility helicopter fleet consisting of UH-1H/V and UH-60A/L aircraft. The UH-60 helicopter is the top procurement priority of the ARNG. Even after receiving cascading aircraft from the AC (as a result of AATMP) and delivery of previously funded aircraft, the ARNG will still be short over 200 Blackhawks in divisional units and the institutional ARNG.

d. Cargo Aircraft: The Cargo Helicopter CH-47D is programmed for modification to the "F" model. This improvement includes upgraded engines, drive train, and avionics. The current program consists of modifying 300 of the 431 CH-47Ds in existence. This will leave 72 ARNG CH-47Ds not modernized to the "F" model.

e. Air Ambulance: Currently, eleven of the ARNG fifteen Air Ambulance companies have been modernized. The ARNG also has one Air Ambulance Detachment with 4 UH-60Q Blackhawks. Only four of the companies are resourced at 100 percent (15 UH-60s). One company has 13 UH-60s on hand, four have 12 UH-60s on hand, and one company has 11. The remaining four companies are equipped with UH-1 Iroquois, which will be retired from service by FY 2004. This reflects an overall shortfall of approximately 82 UH-60s.

f. Aircraft Survivability Equipment/Communications: Procurement of radios, such as the SINCGARS-A and the AN/ARC-220, and survivability equipment, such as the ALQ-144, must be increased to support our ARNG units with the safest, most modern, deployable equipment.

g. Aviation Logistics - Split State Support Sets: Additional support sets are required due to the unique nature of the ARNG multifunctional aviation battalions. Some units are split between states to provide aviation support to all states. Since aviation logistics support sets are only issued at the battalion level, it is necessary to procure additional sets (up to 20) to facilitate fielding of UH-60 and AH-64 units to states, which receive a company out of a multi-functional battalion. These sets consist of all essential aviation unit maintenance support items (test, measurement and diagnostic equipment, ground support equipment) with a basis of issue of one per battalion.

2. Weapons and Tracked Combat Vehicles

a. Phase I of Division XXI: Converting to the Limited Division XXI modernizes the M113A2 Armored Personnel Carrier to the M2/M3A0 and/or M2/M3A2 BFV, and the M1 Abrams tank to the M1A1 tank. The ARNG has converted seven of fifteen eSBs and all seven heavy divisions to the Phase I Division XXI design for armor and infantry battalions and cavalry squadrons. Funding for this program extends through FY 2001.

b. M2/3 BFV: The Army is now fielding the M2/3A3 models. The desired end-state to achieve commonality with the active digitized force is the M2/3A2ODS. The ARNG currently has the basic M2/3A0, M2/3A2, and M2/3AODS models. Funding has not been programmed to modify the ARNG BFV fleet to a standard M2/3A2ODS configuration.

Congressional adds in the FY 2001 budget will convert two battalions, but will leave eight battalion sets unfunded to complete the heavy eSB and the Armored Cavalry Regiment.

c. M88 Tracked Recovery Vehicle: The recovery vehicle for the M1A1 is the M88A2 Hercules. The older model M88A1 is not capable of recovering the M1A1 tank because of the M1A1 tank's 70-ton weight. Units are forced to use two M88A1s when recovering the M1A1 tank. ARNG has an unfunded requirement for the M88A2 Hercules (see *Table 8*).

d. Armored Vehicle Launch Bridge (AVLB): The ARNG is not funded to upgrade the AVLB, which is 1950s technology. If the upgrade program were fully funded, the ARNG could achieve a 90 percent AVLB readiness profile (see *Chart 1*), which would provide for the Abrams tank assault force mobility and bridge crossing capability. The ARNG has 216 of 376 required (57 percent). The M48 chassis comprises 91 of the 216 on-hand. The remaining 125 are of the M60 chassis.

e. Multiple Launch Rocket Systems (MLRS) Conversion: The ARNG is programmed to convert nine M109A5 155mm self-propelled howitzer battalions to MLRS units by FY 2005. Three of the nine converting battalions were unfunded in FY 2000-2001 causing a breach in the program. Because of startup costs and the unfunded requirements (UFR), only three to four of the nine battalions can be converted when the program starts again in FY 2002-2004. The unconverted battalions will retain the older M109A5 howitzer in-lieu-of the MLRS force structure. The funding of the UFRs over the program years would allow the program to be completed as scheduled (see *Table 8* for the UFR).

f. M109A6 Paladin Self-Propelled 155mm Howitzer: Paladin fielding concludes in FY 2002. The ARNG will still require 14 battalion sets (252 ea) of the M109A6 to equip three teaming divisions, as well as six divisional 155mm SP battalions. These fourteen battalions are currently equipped with M109A5 model howitzers, which do not have the digital capability of the M109A6. Eight of these fourteen battalions are war traced to Echelons Above Division war plans and the other six are resourced to the CINC requirements list for EAD missions. These units will also require the M992 FAASV (Forward Area Ammunition Support Vehicle) (252 ea) to replace the current obsolete M548 cargo vehicles.

3. Tactical and Support Vehicles

a. Family of Medium Tactical Vehicles (FMTV): Fielding to modernize the current 2 ½-ton and 5-ton fleets will not be completed until FY 2024. Each time funding for this program is decreased, the fielding tables extend for ARNG units. Units continue to use cascaded vehicles coming from the AC that in many cases increase the technology gap. Since the Army decision to field the FMTV, the ARNG has received less than 1 percent of the required 5-ton vehicles and 2 percent of the required 2 ½-ton vehicles of the new series. The remaining 97 percent are the older models.

b. HEMTT: There is a similar problem with the use of 5-ton cargo trucks as substitutes for HEMTT cargo trucks. The HEMTT cargo truck has a cross-country payload of 22,000 pounds, while a 5-ton truck has a limit of 10,000 pounds cross-country and the 2 ½-ton

truck has a maximum payload of only 5,000 pounds. This deficiency could produce significant operational shortfalls in the event of mobilization. The proper recovery vehicle for heavy truck recovery is the 10-ton wrecker. However, the ARNG currently has only 53 percent of the required HEMTT wreckers. Units must continue to use the 5-ton wrecker as a substitute. This substitute decreases the efficiency of recovery operations due to decreased capability and mobility and presents significant safety concerns in many situations. The primary fuel transport forward of the brigade support area is the HEMTT tanker, of which the ARNG has 63 percent of their required authorization on-hand. This truck has significant applications to the air and ground support missions and does not have an authorized substitute.

c. HMMWV: This lightweight 4x4 vehicle was fielded to the Army beginning in FY 1983, yet remains a significant shortage in the ARNG. Modernization will not significantly change prior to FY 2007. This continues to pose problems as the Army increases requirements on this vehicle. The ARNG is short around 9,000 HMMWVs (over 8000 of the M998 model) variants to fill shortages and replace the 1980 era Commercial Utility Cargo Vehicle (CUCV) series of vehicles. The ARNG units with CUCV as substitutes for HMMWVs pose deployment and readiness problems due to sustainment challenges in theater. The CUCV has been retired by the Army.

d. HET: The M1070/M1000 HET meets the transportation requirements for heavy vehicles and equipment on the battlefield. The ARNG has a significant requirement for these modern 70-ton capacity systems, and currently has 62 percent of the total requirement on-hand for the M1070 and M1000. The remaining HET requirements for divisional units will be met with distribution in FY 2005/2006. Units with the older M911 system cannot transport the M1A1 tank.

e. 5-Ton Tractor and Cargo Trailer: A primary medium transport system in the ARNG is the 5-ton tractor and the M871, 22 ½- ton trailer. This truck/trailer combination accomplishes both state and federal missions for the ARNG and helps reduce operating costs for moving supplies. The average age of the 5-ton tractor fleet is 15-19 years. Although the on-hand quantity of 5-ton tractors is at 77 percent, over 50 percent of that quantity is the M818 and M52 series tractors that meet or exceed their ESL. The M871 trailer is critically short in the ARNG with only 53 percent on-hand. The ARNG still uses 681 of the M127 (12-ton) and 306 M172 (25-ton lowboy) trailers to fill M871 authorizations. Currently, there is no projected "get well" date for the trailers. The ARNG is scheduled to activate 25 additional truck companies between FY 2001-2007. Each company will be authorized 61 tractors, which will increase ARNG truck requirements by 1,525 tractors.

f. Palletized Load System (PLS): As the Army places more dependence on transportation systems to move critical equipment on the battlefield, the ARNG has done well with modernizing its fleet with the PLS. The ARNG is currently at 71 percent of required for the M1075 and 74 percent of required for the M1074 models. Engineers use the M1075 and M1074 models as part of the new Engineer Mission Module force structure.

4. Communications-Electronics Equipment (C-E)

a. EPLRS (Enhanced Position Location Radio System): Many ARNG combat units have assumed an increasingly larger role in support of contingency operations, but several C-E compatibility concerns remain unresolved. For example, AC combat units are currently receiving EPLRSs to provide the commander with situational awareness that aids in the effective integration of the five battlefield functional areas on today's modern digital battlefield. Currently, funding is programmed to provide all ARNG units in support of the First Digitized Corps with this digital enhancement. However, EPLRS is not programmed for the rest of the ARNG force. The quantity of EPLRS radios required to fill an eSB is approximately 450. Divisions have a requirement of 900. EPLRS is also critical for echelons above Division Air Defense Artillery Avenger units, particularly in the Digitized Corps. Without EPLRS Avenger units will not be able to operate the Forward Area Air Defense, Command, Control and Intelligence system (FAADC2I). FAADC21 procurement and fielding is on going for the ARNG, but the EPLRS systems are not programmed for procurement through FY 2007. Without EPLRS these ARNG Avenger units, which are war traced to CINC contingencies, will not be able to operate at the same level as the AC units and will create a serious decrement in air defense capability for the supported units.

b. Night Vision Goggles (NVG): The ARNG is short NVGs for both air and ground units. The current inventory represents only 33 percent of the ARNG requirement for NVG. This shortage adversely impacts a unit's ability to train for and conduct night operations. The older PVS-5 NVGs, used as substitutes for the PVS-7Bs NVGs, are inadequate and limit the units capability to maneuver under the cover of darkness with the same agility as PVS-7B equipped units.

Chart 3

ARNG NIGHT VISION SHORTAGES (GROUND SYSTEMS)

	AUTH	O/H	% FILL	SHORT
PVS-5	28,869	10,349	36%	18,520
PVS-7B	147,693	40,158	27%	107,535
PVS-14	18,450	8978	49%	9472
TVS-5	16,298	2726	17%	13,572

c. Single Channel Ground Air Radio System (SINCGARS): One of the top ARNG equipping priorities is to purge the ARNG of its remaining VRC-12 series radios (obsolete) with SINCGARS. The chart below shows the ARNG requirement (CECOM estimate) to complete SINCGARS fielding through FP 4 Divisional units. If not funded, the ARNG will have to wait until the Joint Tactical Radio System fielding starts in FY 2007 for the cascade of SINCGARS from the AC to purge the VRC-12 series radios from the ARNG. FY 2001 Congressional adds are being used to buy 7547 aircraft and ground systems.

Chart 4
ARNG SINCGARS PROJECTIONS

Required	On-Hand	Cascades	FY01 Buys	Short
83,697	30,432	18,051	7547	27,667

5. Construction Equipment (CE): Budget decisions have resulted in CE funding line reductions. The funding cuts have caused termination of procurement programs prior to fielding to FP 3 and 4 units in many programs. The ARNG's state of readiness, with regard to engineer equipment, is at risk. Much of the engineer equipment is overage, obsolete, and unsupportable. ARNG Engineers are forced to substitute equipment that decreases compatibility and increases sustainment costs. The ARNG conducts real world, highly visible missions in support of deployments worldwide, as well as conducting domestic support missions in response to natural disasters and state emergencies. The ARNG constitutes over half of the Army's EAD engineers, which is where the majority of the CE requirement exists. Without modern equipment, the ARNG's ability to complete construction missions is jeopardized. Failing equipment and equipment that does not possess the capabilities of the newly procured equipment causes this. Consequently, the CINC loses capability.

6. Power Generation: The ARNG has less than 60 percent of its required tactical power generation equipment and equipment on-hand is over 20 years old. The majority of this shortfall lies in the smaller 3 KW and 5 KW models. Current fielding of the newer models of the tactical quiet generator (TQG) addresses only FP 1 units. The TQG fielding will have little impact until beyond FY 2007 on the majority of the ARNG forces, which fall into FP 2, 3, and 4 units. The TQG fielding within the Eighth US Army and United States Army Europe have resulted in insufficient cascading of the older diesel generators for the ARNG to meet its requirements. The ARNG needs to upgrade and improve its aging inventory of generators and accelerate the fielding of TQG to more units within the ARNG.

(f) Overall Equipment Readiness: The Army continues to modernize the RC according to the first-to-employ principle. This ensures early deploying AC and RC units are compatible and interoperable. Converting combat structure to CS/CSS units continues to require annual funding to produce a viable modernized force. The Army has strengthened and accelerated its RC modernization program through the AC/RC integration initiative, which receives its primary thrust from the ADRS. Availability of CS/CSS equipment is especially important when considering a major force structure decision such as ADRS, which exchanges combat units and their equipment for CS/CSS. The ARNG, in concert with the Army, is looking proactively across all resource areas to ensure it has the capability to meet operational and training needs. ADRS will not fill current equipment shortages in other non-ADRS related units. *Chart 5* below provides an overview of the current ARNG readiness posture by unit type. TOE changes in the last quarter of FY 2000, and the resulting equipment shortages caused readiness to drop by up to 4 percentage points for equipment on-hand.

Chart 5
Current Equipment–on-Hand (EOH) Readiness Posture

Type of Unit	Readiness Posture	# of Units
Force Support Package I	92.7%	129
Force Support Package II	92.8%	110
Enhanced Brigades	92.0%	143
Divisional	81.2%	309
Other Units	85.3%	812
Overall ARNG:	**85.6%**	**1503**

NOTE: This chart depicts EOH readiness posture for identified units as of 30 Sep 00.

The Army confirmed its commitment to ADRS and required unresourced force structure (COMPO 4) reductions, by allocating approximately $2 billion for equipment and training in the FYDP 2002-2007. These funds will procure equipment for Phase 1 of ADRS (three brigade conversions) and Phase 2 (three brigade conversions). The Army continues to evaluate requirements for ADRS-related equipping, military construction, environmental, sustainment, and manning issues.

For many years the primary source of newer equipment for the ARNG came from cascaded equipment from the AC; however, the Army does not have a formal long-range plan for the cascading of equipment. Individual Project Managers of combat vehicles often have informal plans identifying what models or series of equipment will be transferred. Cascaded equipment is required to be transferred in usable condition (TM 10/20 standard); however, the fact is that equipment is rarely transferred on time in 10/20 standard due to AC funding or other constraints. The AC has barely enough funds to maintain equipment on-hand, so excess equipment in some cases may be accepted by the ARNG in less then TM 10/20 standard to prevent the losing AC unit from turning the equipment in as unserviceable.

(g) Other Equipment Specific Issues: Training Aids, Devices, Simulators, and Simulations (TADSS) have proven their merit in improving all levels of training capability and effectiveness from individual and crew through collective battle staff training. More importantly are the harvested savings in training time, the environmental, equipment maintenance, ammunition and improved safety. Training of the ARNG is different from the AC due to geographic dispersion of units and significant time constraints of our soldiers. These differences necessitate unique TADSS solutions to meet the training requirements of the ARNG. *Chart 6* identifies ARNG systems that enhance readiness.

Chart 6
Training Aids, Devices, Simulators, and Simulations

SYSTEM	DESCRIPTION	QUANTITY SHORT
ABRAMS-FULL INTERACTIVE SKILLS TRAINER	PC BASED, APPENDED, PORTABLE/DEPLOYABLE, TRAINING SYSTEM WHICH TRAINS A FULL TANK CREW IN PRECISION GUNNERY	65
FULL-CREW INTERACTIVE SIMULATION TRAINER FOR THE BRADLEY FIGHTING VEHICLE	PC BASED, APPENDED, PORTABLE/DEPLOYABLE, TRAINING SYSTEM WHICH TRAINS A FULL BRADLEY CREW IN PRECISION GUNNERY	341
AVENGER TABLE TOP TRAINER	PC BASED SIMULATOR FOR AVENGER CREWS	27
DIGITAL SYSTEMS TEST AND TRAINING SIMULATOR	PC BASED, PORTABLE SYSTEM THAT PROVIDES MESSAGE FORMAT AND COMMUNICATIONS SIMULATION FOR FIELD ARTILLERY.	51
ENGAGEMENT SKILLS TRAINER	PC BASED SMALL ARMS TRAINER FOR CREW SERVED WEAPONS, INFANTRY SQUADS, AND MARKSMANSHIP TRAINING.	262
GUARD FIST II	PC BASED, ONE TO ONE TRAINER THAT TRAINS AND SUSTAINS ARTILLERY FORWARD OBSERVERS AND OTHER COMBAT ARMS SOLDIERS IN CALL FOR FIRE TECHNIQUES	115
JANUS	PC BASED, BATTLE STAFF TRAINING SYSTEM	73

b) Changes Since Last NGRER: The procurement budget for the ARNG continued on its upward trend after a low in 1998. The Army budget for FY 2002-2007 continues to fund the equipment for units converting from combat brigades to CS/CSS, but does not procure the equipment to fill other current unit shortages. Congressional adds such as the NGREA are used to fill equipment shortages and purge obsolete equipment from the inventory. Even with the increase in Army procurements, the ARNG has a long way to go to recover from the effect of budget decreases during the last eight years. Resource competition for transformation versus ARNG modernization will continue to be a challenge for equipping relevant units.

Chart 7
PROCUREMENT FUNDING FOR THE ARNG

FISCAL YEAR	NGREA ($M)	P1R * ($M)	TOTAL ($M)
FY89	256.0	1,180.0	1436.0
FY90	331.8	1,916.2	2248.0
FY91	805.7	860.2	1665.9
FY92	344.2	626.2	970.4
FY93	399.2	686.0	1085.2
FY94	193.4	979.4	1172.8
FY95	120.9	594.4	715.3
FY96	100.1	780.2	880.3
FY97	100.8	292.8	393.6
FY98	68.8	528.4	597.2
FY99	20.0	726.9	746.9
FY00	29.8	928.2	958.0
FY01	49.5	1172.1	1221.6
FY02	TBD	925.6	TBD

* P1R identifies the Service Procurement for the ARNG, including Congressional Adds for the ARNG in AC accounts and also excludes any amount that is funded for ammunition.

c) Future Years Program (FY 2002-FY 2004)

(1) FY 2004 Equipment Requirements: The Army National Guard anticipates changes to its equipment requirements. These changes are based on ongoing Army initiatives and fall into two major categories. These are modernization of the combat force and its associated support items and modernization of common systems to adapt to a changing logistics environment. The transformation of both AC and ARNG combat brigades to the Initial Brigade Combat Team configuration can provide a needed modernization of ARNG heavy combat forces. Newer versions of the M1 Abrams and M2 BFV can be displaced to ARNG enhanced separate brigades and divisional units, giving added capabilities to these heavy forces. Unfortunately, as these systems displace, many of the supporting systems (HEMTT fuel trucks, test sets, HMMWVs) are displaced to fill other active unit readiness shortfalls. The modernization of combat major end items further increases the shortage of support equipment and places additional strain on those support systems that exist in the ARNG inventory. As newer modernized combat systems are fielded to the ARNG, a substantial effort must be made to provide the necessary support equipment. The reduction of the Army's logistics footprint will increase the difficulty in deploying older systems that have a unique spares parts requirement.

(2) Anticipated New Equipment Procurements: The ARNG will begin to take its place as part of the First Digitized Corps with the fielding of key enablers. The Army modernization schedule also shows the eSBs beginning digitization in FY 2004. Depending upon the Army Transformation schedule, the ARNG divisions may digitize after the eSBs and finish by approximately FY 2015. Digitization under the current plan would be at the command and

control systems level for battalion and above. Digitization of the maneuver systems would not occur until the unit transforms to the Objective Brigade Combat Team design.

(3) Anticipated Transfers From AC to the ARNG: The cascading of equipment to ARNG units from modernizing AC or Army Reserve units is, and will remain, a major source of equipment for the ARNG. Unfortunately, the tracking of this equipment can be difficult and problematic. Many larger combat systems have limited numbers of units that can receive this displaced equipment and are easily identified. The ongoing transfer of the M1 Abrams and M2 BFV are prime examples of the type of equipment transfer that can be traced, allowing the ARNG to project the cost required to field this new equipment. The majority of transferred equipment (primarily CS/CSS equipment) is handled as a supply transaction and cannot be tracked by the ARNG until it arrives in a unit. Additional difficulties occur with the transfer of support equipment when changes in requirements are identified within the losing command, as well as, with any ongoing initiative to pure fleet or modernize current equipment stockage.

(4) Anticipated Withdrawals From the ARNG Inventory

(a) The Army is progressing toward its goal of retiring UH-1s by the end of FY 2004. The Total UH-1 inventory has been reduced from 820 at the beginning of FY 2000 to 737 at the beginning of FY 2001. The FY 2001 inventory end state projection is 611. The retirement of 209 UH-1s represent a 34 percent reduction in two years.

The Aviation Modernization Plan will drive the pace of retirement for the remainder of the UH-1 fleet. Under this current plan and in accordance with the FYDP 2002-2007, the Army will transform its aviation units to the new force structure between now and the end of the current FYDP. With all UH-1s being retired by FY 2004, ten ARNG UH-1 companies will be without aircraft for up to two years (four companies transform in FY 2005, six in FY 2006). These ten companies represent an interim requirement of 80 UH-60s (8 per company) and an objective requirement of 100 UH-60s (10 per company).

The following lists the number of AH-1s retired or to be retired:

–	On hand start of FY 2000	394 (14 Bns, 15 States)
–	Turned-in FY 2000	74
–	On hand start of FY 2001	320
–	Turn-in scheduled for FY 2001	230
–	On hand after FY 2001	90

(b) The ARNG continues to use vehicles which are on the Tactical Wheeled Vehicle Retirement Program. Although considered obsolete, these vehicles will remain as vital assets to the ARNG due to slow modernization of the AC. Examples of these systems are:

- M911/M747 HET Systems
- CUCVs
- 2.5 Ton Trucks (M35 series)
- 5 Ton Trucks (M39 series)

d) Equipment Shortages and Modernization Shortfalls at the end of FY 2004:

(1) At the end of FY 2004, the ARNG will continue to have CS equipment shortages and modernization shortfalls. For example, CE and MHE systems are under-funded and will not experience significant modernization. CE shortfalls include engineer mission modules, 5-ton dump trucks, and bulldozers, to name a few. MHE shortfalls include forklifts and cranes. Other significant CS shortfalls include the AVLB, M9 armored combat earthmovers, and bridging assets. As a result of the modernization shortfall, the geographic CINC loses capability to support the battle.

(2) The ARNG has requirements for 92 additional Standard Army Retail Supply Systems (SARSS) computer systems that are pacing items in support battalions and materiel management centers. SARSS legacy systems use non-Y2K compliant, obsolete hardware that cannot interface with SARSS. Without SARSS, ARNG units cannot train soldiers for mobilization and for service with Active component units and installations during peacetime. Without SARSS in the ARNG, theater commanders face extended arrival dates in theater for ARNG units requiring additional time to field and train SARSS. Without SARSS, mobilized ARNG troops will have to wait for supplies while logistics units undergo training at CONUS Replacement Centers. The SARSS software program requires more refresher training for operators and supervisors to maintain proficiency than one time per year.

(3) The Hercules (M88A2) fielding plan currently excludes ARNG Divisions and EAD units, as it fields primarily to AC III Corps units and TRADOC. This leaves the ARNG with older equipment (M88A1) procured in the late 1970s, which cannot recover the M1 series tank. This multiplies the effects of the shortages for ARNG units and strains the system.

(4) The aging of wheeled equipment will continue to outpace the modernization of equipment for the ARNG throughout the FYDP 2002-2007, but specifically through FY 2004. During this timeframe the aging truck fleet will hamper ARNG readiness in support of the NMS. For instance, the ARNG will only receive 1,349 2½ -ton FMTVs by FY 2004. Additionally, the ARNG is not on the Army's fielding plan for 5-ton FMTVs until FY 2007 while 40 percent of the ARNG 5-ton fleet consists of the M809 series trucks.

e) Remaining Shortfalls and Unfunded Requirements: Several CS equipment systems remain short and unfunded at the end of FY 2004 and through the end of the FYDP 2002-2007. Some of the CS unfunded systems include the Wolverine (AVLB), M9 ACE, engineer mission modules, fire trucks, 5-ton dump trucks, and bridging assets. The FMTV modernizations are expected to continue past FY 2017. Significant quantities of HMMWV modernizations will not begin until FY 2007.

f) Summary/Conclusions: The ARNG remains an integral part of the Army's force structure. It has the majority of the artillery force and CS/CSS infrastructure. The enhanced separate brigades have reached, or are soon programmed to reach, the same commonality of equipment as their AC counterparts. Initiatives such as ADRS, Phase I Division XXI and the MLRS conversion program give ARNG units the same capability and equipment as its AC

counterparts. The ARNG has a larger role in overseas peacekeeping missions and continues to support disaster relief. ARNG units in support of the 1st Digitized Corps are programmed to receive new digital equipment. Despite the efforts of these programs, a significant lag will remain for several years in replacing the ARNG's overage tactical wheeled vehicle fleet, upgrading its tactical communication systems, and filling other equipment shortages. Current programmed procurement through FY 2007 will not fill the existing shortages nor replace current obsolete equipment. Additional direct procurement in each budget, in addition to the programmed Army procurement, has significantly improved the readiness of several units.

ARNG
Major Item Inventory and Requirements

NOTE: This table provides a comprehensive list of selected major items of equipment. It provides the quantity on-hand (QTY O/H) projected to be in the inventory at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) needed to meet full wartime requirements of the Reserve component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment which should be in the inventory of each Reserve component.

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
HELICOPTER,OBSERVATION,OH-58D (KIOWA)	A21633	4,075,800	13	13	13	13	**24**
AIRPLANE,CARGO,TRANSPORT,C-12D	A29812	1,967,301	7	7	7	7	**2**
AIRPLANE,CARGO,C-23	A29880	7,424,158	41	41	41	41	**48**
AIRPLANE,CARGO,C-12	A30062	2,630,076	35	35	35	35	**45**
ALARM,CHEMICAL AGENT,AUTOMATIC,M8A1	A32355	2,357	12935	12935	12935	12935	**18106**
AIRPLANE CARGO:TRANSPORT,C-26	A46758	640,000	10	10	10	10	**11**
CARRIER,AMMO,TRACKED M992A2	C10908	630,000	325	325	325	325	**327**
ARMORED PERSONNEL CARRIER,FISTV M113	C12155	627,881	496	496	496	496	**500**
ARMORED PERSONNEL M1059A2	C12815	298,778	105	105	105	105	**98**
ARMORED PERSONNEL CARRIER M113A3	C18234	405,815	1599	1599	1599	1599	**2435**
BRIDGE ARMORED VEHICLE,SCISSOR TYPE	C20414	87,742	354	354	354	354	**340**
REINFORCEMENT SET,MEDIUM GIRDER BRIDGE	C27309	498,940	7	8	8	8	**10**
CAVALRY FIGHTING VEHICLE,M3A0 (BRADLEY)	C76335	1,056,845	154	154	154	154	**97**
CARRIER,CARGO,FT,6 TON M548	D11049	323,416	965	965	965	965	**540**
CARRIER,COMMAND POST M577A1	D11538	345,787	2069	2069	2069	2069	**1854**
ARMORED PERSONNEL CARRIER M113A1/2	D12087	244,844	3664	3664	3664	3664	**1111**
COMPACTOR,HIGH SPEED	E61618	135,186	114	114	114	114	**104**
CRANE,WHEEL MOUNTED,20T	F39378	236,460	3	3	3	3	**108**
INFANTRY FIGHTING VEHICLE M2A2 (BRADLEY)	F40375	1,349,348	555	555	555	555	**522**
CRANE-SHOVEL,CRAWLER MOUNTED	F40474	509,140	4	7	7	7	**14**
ATEC CRANE	F43429	236,460	114	114	114	114	**136**
CRUSH & SCREEN PLANT,75TPH	F49399	19,532	6	6	6	6	**10**
FIRE UNIT VEHICLE MOUNTED,AVENGER	F57713	1,059,018	259	259	259	259	**326**
CAVALRY FIGHTING VEHICLE M3A2 (BRADLEY)	F60530	1,144,000	237	237	237	237	**264**
GENERATOR SET,DSL ENG,TM,10KW,60HZ,MTD ON M116 PU	G40744	12,102	901	901	911	911	**819**
GENERATOR SET,DSL ENG,SKID MTD,3KW,60HZ,AC,120/208	G54041	6,459	1449	1449	1449	1449	**6216**
HELICOPTER,ATTACK AH-64 (APACHE)	H28647	11,909,353	139	175	199	199	**199**
HELICOPTER,CARGO CH-47D (CHINOOK)	H30517	1,916,272	133	133	133	133	**133**
HELICOPTER,OBSERVATION OH-58C (KIOWA)	H31110	207,106	82	97	97	98	**97**
HELICOPTER,MEDICAL UH-1V (IROQUOIS)	H31872	956,475	228	147	72	72	**72**
HELICOPTER,UTILITY UH-60L (BLACK HAWK)	H32361	4,281,227	110	120	130	140	**150**
HELICOPTER,ATTACK AH-1F (COBRA)	H44644	19,353,755	115	0	0	0	**0**
TACTICAL FIRE TRUCK	H56391	151,000	72	72	72	72	**70**
HOWITZER,LIGHT,TOWED,105MM M119	H57505	619,933	56	56	56	56	**68**
HOWITZER,MEDIUM,SP,155MM M109A6 (PALADIN)	H57642	1,435,000	267	267	267	267	**325**
GENERATOR SET,DIESEL ENGINE,30KW	J36383	20,810	576	576	576	576	**508**
GRADER,ROAD,MOTORIZED,FRONT WHEEL STEER	J74852	129,684	1	1	1	1	**27**
GRADER,ROAD,MOTORIZED,SECTIONALIZED	J74886	298,120	1	10	10	10	**14**
INFANTRY FIGHTING VEHICLE M2A0 (BRADLEY)	J81750	1,061,457	1016	1016	1016	1016	**627**
HELICOPTER,OBSERVATION OH-58A (KIOWA)	K31042	87,191	181	196	196	196	**196**
HELICOPTER,UTILITY UH-1H (IROQUOIS)	K31795	1,983,610	227	146	72	72	**72**
HELICOPTER,UTILITY UH-60A (BLACK HAWK)	K32293	4,875,333	405	439	452	452	**452**
HOWITZER,M102,105MM,LT,TWD	K57392	126,016	317	317	317	317	**249**
HOWITZER,MEDIUM,SP,155MM M109A5	K57667	758,038	1009	1009	1009	1009	**415**
INTERIOR BAY BRIDGE,FLOATING	K97376	41,940	224	224	224	224	**182**
LAUNCH,M60 TANK CHASSIS	L43664	527,126	299	299	299	299	**437**
MULTIPLE LAUNCH ROCKET SYSTEM (MLRS)	L44894	1,973,897	290	290	290	290	**400**
MASK,CHEMICAL BIOLOGICAL M40	M12418	95	273427	273427	273427	273427	**279160**
MASK,PROTECTIVE,COMBAT VEHICLE M42	M18526	135	60045	60045	60045	60045	**49951**
ASPHALT PLANT	M57048	1,254,600	2	2	2	2	**4**
MELIOS	M74849	8,549	1199	1248	1344	1344	**3226**
MACHINE GUN,7.62MM 240B	M92841	6,000	130	130	130	130	**46**
NIGHT VISION GOGGLES AN/PVS-5	N04456	4,300	25955	25955	25955	25955	**21133**
NIGHT VISION SIGHT,CREW SERV WPN AN/TVS-5	N04596	3,433	4095	4173	4281	4281	**16677**
NIGHT VISION SIGHT AN/UAS-11(V)1	N05050	69,641	6	6	6	6	**212**
NIGHT VISION GOGGLES AN/PVS-7B	N05482	3,578	55984	59267	60878	60878	**157817**
RADIO SET AN/ARC-102	Q25978	16,932	13	13	13	13	**7**
RADIO SET AN/ARC-114	Q25990	20,857	609	609	609	609	**433**

ARNG
Major Item Inventory and Requirements

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
RADAR SET AN/TPQ-36(V)	R14148	3,760,576	35	35	35	35	**31**
RADIO SET AN/VRC-92A (SINCGARS)	R45407	21,238	4466	4466	4466	4466	**5954**
RECOVERY VEHICLE,FT,MDM M88A1	R50681	1,210,755	983	983	983	983	**1031**
RADIO SET AN/PRC-119 (SINCGARS)	R55268	6,418	82	82	82	82	**180**
RADIO SET AN/VRC-87A (SINCGARS)	R67160	12,109	2688	2688	2688	2688	**4041**
RADIO SET AN/VRC-88A (SINCGARS)	R67194	12,519	3831	3831	3831	3831	**6234**
RADIO SET AN/VRC-90A (SINCGARS)	R67908	13,178	9503	9503	9503	9503	**19416**
RADIO SET AN/VRC-91A (SINCGARS)	R68010	23,249	5317	5317	5317	5317	**7315**
RADIO SET AN/PRC-112	R82903	5,020	770	972	1003	1003	**5139**
RADIO SET AN/VRC-119A (SINCGARS)	R83005	10,117	4561	4561	4630	4630	**5770**
RIFLE,5.56 MM M16A2	R95035	449	213508	213508	213508	213508	**273477**
VIBRATOR ROLLER	S12916	61,408	111	111	111	111	**258**
SEMITRAILER,22-1/2 TON M871	S70027	24,483	2859	2936	2936	2936	**5459**
SEMITRAILER,FB,TRANSPORTR,34T	S70159	20,004	2837	2837	2837	2837	**2527**
SEMITRAILER,LOW BED,40 TON,6-WHEEL	S70594	22,947	983	983	983	983	**979**
SEMITRAILER,HVY EQUIP TRANSPORTER,60T (HET)	S70661	70,564	270	270	270	270	**190**
SEMITRAILER,HVY EQUIP TRANS SYS,70T (HETS)	S70859	198,789	417	547	547	547	**918**
SEMITRAILER 7500 GAL POL	S73119	30,165	375	375	375	375	**1380**
SEMITRAILER 5000 GAL POL	S73372	97,413	530	569	571	571	**712**
TRUCK UTILITY CARGO/TROOP 1 1/4 TON M1097	T07679	58,374	700	700	700	700	**2752**
TANK,COMBAT,120MM M1A1 (ABRAMS)	T13168	2,393,439	1390	1390	1390	1390	**1513**
TANK,COMBAT,105MM M1 (ABRAMS)	T13374	1,645,697	1450	1450	1450	1450	**953**
TRUCK,CARGO,TACTICAL,W/W-LT CR (HEMTT)	T39518	193,789	264	264	264	264	**324**
TRUCK,M985,CARGO,W/MED CR (HEMTT)	T39586	194,853	787	793	799	799	**968**
TRUCK,CARGO,TACTICAL,W/W&Wo/W M985 (HEMTT)	T39654	202,560	178	181	181	181	**140**
TRANSPORTER,PALLETIZED LOAD SYSTEM (PLS)	T40999	243,746	465	465	611	611	**557**
TRANSPORTER,PALLETIZED LOAD SYS W/MHE (PLS)	T41067	288,015	740	740	740	740	**655**
TRUCK, CARGO, MTV W/W M1083	T41135	134,047	144	144	144	144	**41**
TRUCK CARGO MTV M1084 W/MHE	T41203	180,357	48	48	48	48	**36**
TRAILER HEMAT M989A1 (MLRS)	T45465	34,714	527	527	527	527	**1302**
TRUCK,TANKER,FUEL,2500G WW (HEMTT)	T58161	246,567	637	651	651	651	**512**
TRUCK,TRACTOR,HEAVY EQUIP TRANS SYS (HETS)	T59048	256,704	415	545	545	545	**918**
TRUCK,CARGO,10TON,W/LT CRANE (HEMTT)	T59278	185,820	818	818	818	818	**694**
TRUCK,CARGO,4X4,LMTV M1078	T60081	104,626	513	633	633	633	**1830**
TRK 5 TON TRACTOR, FMTV M1088	T61239	142,132	489	489	728	728	**1281**
TRUCK,UTILITY,1-1/4 TON,M998,WE (HMMWV)	T61494	36,076	17513	17620	17717	17717	**26878**
TRUCK UTILITY CARGO/TROOP 1 1/4 TON M1038	T61562	36,672	1480	1496	1496	1496	**2278**
TRUCK CARGO MTV LWB M1085	T61704	118,791	3	3	3	3	**43**
TRUCK,CARGO,MTV W/E M1083	T61908	128,076	525	525	525	525	**527**
TRUCK,WRECKER,M948E1,8X8 (HEMTT)	T63093	276,866	661	661	677	677	**1053**
TRUCK,LIFT,FORK,10K,VARIABLE REACH (ATLAS)	T73347	100,199	49	49	49	49	**27**
TRUCK,TANKER,FUEL,2500G (HEMTT)	T87243	237,210	915	915	915	915	**1640**
TRUCK,TRACTOR,LET M916	T91656	164,760	840	842	855	855	**388**
TRUCK,UTILITY,1-1/4 TON,M1025,ARM (HMMWV)	T92242	64,281	3314	3314	3314	3314	**2441**
TRUCK,UTILITY,1-1/4 TON,M1036,TOW (HMMWV)	T92310	39,518	975	975	975	975	**1427**
TRUCK CARGO LMTV M1079 W/E	T93484	162,060	82	82	82	82	**79**
TRAILER,PALLETIZED LOAD SYSTEM (PLS)	T93761	41,910	522	522	522	522	**556**
TRUCK 5 TON WRECKER FMTV M1089	T94709	268,992	67	67	67	67	**93**
TRACTOR,FULL TRACKED,ARMORED M9 (ACE)	W76473	887,050	79	93	95	95	**191**
TRACTOR,FULL TRACKED,LOW SPEED	W76816	241,642	632	632	632	632	**414**
TRACTOR,FT,LS,DED,MED	W83529	245,275	330	330	330	330	**724**
TRUCK,CARGO,5T,DROP SIDE WW	X40931	85,946	1547	1547	1547	1547	**1255**
TRUCK,DUMP,5T,6X6,W/E M929	X43708	89,115	1807	1807	1807	1807	**476**
TRUCK,DUMP,5T 6X6 WW WE	X43845	93,130	717	717	717	717	**84**
TRUCK,DUMP,20T,12 CY M917	X44403	191,616	591	600	612	612	**561**

ARNG
Average Age of Equipment

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for FY 2002.

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
CARRIER, AMMO, TRACKED M992A2	C10908	14	
ARMORED PERSONNEL CARRIER, FISTV	C12155	33	
CARRIER, SMOKE GENERATOR, FT, ARMD	C12815	28	
BRIDGE ARMORED PERSONNEL CARRIER M113A3	C18234	12	
BRIDGE ARMORED VEHICLE, SCISSOR TYPE	C20414	30	
CAVALRLY FIGHTING VEHICLE M3A0(BRADLEY)	C76335	16	
CARRIER, M106A1, 107MM MORT, 4.2IN	D10741	34	
CARRIER CARGO, FT, 6 TON M548	D11049	32	
CARRIER, COMMAND POST M577A1	D11538	13	
ARMORED PERSONNEL CARRIER, FM113A1/2	D12087	29	
DATA PROCESS SYSTEM AN/MYQ-4	D78075	18	
DATA PROCESS SYSTEM AN/MYQ-4A	D78325	18	
CRANE, WHEEL MOUNTED, 20T	F39378	30	
INFANTRY FIGHTING VEHICLE M2A2 (BRADLEY)	F40375	9	
CRANE-SHOVEL, CRAWLER MOUNTED	F40474	40	
RIRE UNIT VEHICLE MOUNTED, AVENGER	F57713	8	
CAVALRY FIGHTING VEHICLE M3A2 (BRADLEY)	F60530	12	
DECONTAMINATION APPARATUS, SKID MOUNTED	F81880	27	
GENERATOR SET, DSL ENG, TM, 10KW, 60HZ, MTD ON M116 PU	G40744	11	
ELECTRONIC SHOP AN/ASM-190LP	H01857	12	
GENERATOR, PU-405	J35492	17	
GENERATOR SET, DIESEL ENGINE, 30KW	J36383	17	
GRADER, ROAD, MOTORIZED, FRONT WHEEL STEER	J74852	24	
INFANTRY FIGHTING VEHICLE M2A0 (BRADLEY)	J81750	16	
HOWITZER, M102, 105MM, LT, TWD	K57392	42	
HOWITZER, MEDIUM, SP, 155MM M109A5	K57667	29	
KITCHEN, FIELD, TRAILER MOUNTED, MTD ON M103A3 TR	L28351	15	
LAUNCH, M60 TANK CHASSIS	L43664	24	
MULTIPLE LAUNCH ROCKET SYSTEM (MLRS)	L44894	13	
RECOVERY VEHICLE, FT, MDM M88A1	R50681	25	
ROLLER PNEUMATIC, ARIABLE PRESSURE	S11793	23	
SHOP SET, CONTACT MAINTENANCE	S30914	16	
SHOP SET, CONTACT MAINTENANCE	S30982	15	
SEMITRAILER, 221/2 TON M871	S70027	17	
SEMITRAILER, FB, TRANSPORTER, 34T	S70159	17	
SEMITRAILER, LOW BED, 40 TON, 6-WHEEL	S70594	22	
SEMITRAILER, HVY EQUIP TRANSPORTER, 60T (HET)	S70661	25	
SEMITRAILER TANK, PETROLEUM, 7500 GAL, BULK HAUL	S73119	9	
SEMITRAILER, VAN, SUP M129A2C	S75175	32	
SHELTER SYSTEM, COLLECTIVE, 1O MAN	T00474	19	
TRUCK UTILITY: HEAVY VARIANT HMMWV 4X4 10000	T07679	7	
SHOP EQUIPMENT, CONTACT	T10138	24	
TANK, COMBAT, 120MM M1A1 (ABRAMS)	T13168	13	
TANK, COMBAT, 105 MM M1A1 (ABRAMS)	T13374	16	
SMALL EMPLACEMENT EXCAVATOR W/FRONT LOADER	T34437	12	
TRUCK, CARGO, TACTICAL, W/W-LT CR (HEMTT)	T39518	13	
TRUCK, M985, CARGO, W/MED CR (HEMTT)	T39586	10	
TRANSPORTER, PALLETIZED LOAD SYSTEM (PLS)	T40999	5	
ROUGH TERRAIN CARGO HANDLER, 50K LB (RTCH)	T48941	17	
TRUCK, FORK LIFT, 6K LB, RT, VARIABLE REACH	T48944	8	
TRUCK, FORK LIFT, DD, 4K LB, RT	T49255	18	
TRUCK, TANKER, FUEL, 2500G WW (HEMTT)	T58161	11	
TRUCK, TRACTOR, HEAVY EQUIP TRANS SYS (HET)	T59048	7	
TRUCK, CARGO, 10 TON, W/LT CRANE (HEMTT)	T59278	14	
TRUCK, UTILITY, 1-1/4 TON, M998, WE (HMMWV)	T61494	10	
TRUCK, WRECKER, M948E1, 8X8 (HEMMT)	T63093	10	

ARNG
Average Age of Equipment

Table 2

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
CARRIER, AMMO, TRACKED M992A2	C10908	14	
TRUCK, TANKER, FUEL, 2500G (HEMMT)	T87243	11	
TRUCK, TRACTOR, TACTICAL, 8X8, HEAVY EXPANDED	T88677	15	
TRUCK, TRACTOR, LET M916	T91656	17	
TRUCK, UTILITY, 1-1/4 TON, M1036, TOW (HMMWV)	T92310	11	
TRACTOR, FULLTRACKED, ARMORED M9 (ACE)	W76473	7	
TRACTOR, FULLTRACKED, LOW SPEED	W76816	29	
TRACTOR, FULLTRACKED, LOW SPEED, DED, MED	W83529	21	
TRACTOR, WHEELED, WAREHOUSE, 4K LB	W89557	21	
TRUCK, CARGO, 5T, DROP SIDE WW	X40931	17	
TRUCK, DUMP, 5T 6X6 WW WE	X43845	32	
TRUCK, DUMP, 20T, 12 CY M917	X44403	23	

ARNG
Service Planned Procurements (P-1R Data)

NOTE: This table identifies the dollar-value of equipment programmed to be procured with Service procurment funds as identified in the P-1R exhibit of the President's budget. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; eg. items procured in FY 2003 would be expected to arrive in RC inventories in FY 2004 or FY 2005.

NOMENCLATURE	*FY 2002*	*FY 2003*	*FY 2004*	*REMARKS*
UH-60A BLACKHAWK	173,900,000	160,000,000	145,000,000	
CH-47 MODS		33,800,000	20,700,000	
UTILITY / CARGO AIRPLANE MODS	5,900,000	9,200,000	3,200,000	
JAVELIN	97,200,000	233,500,000		
HIMARS LAUNCHER		65,100,000	57,800,000	
AVENGER MODS	4,000,000	21,500,000	35,600,000	
MLRS MODS	1,900,000			
SPARES AND REPAIR PARTS		200,000	2,600,000	
HOWITZER, MED SP FT 155MM M109A6	5,400,000			
MACHINE GUN, 7.62MM M240 SERIES	6,400,000	7,100,000	11,100,000	
M16A4 RIFLE	2,000,000	2,500,000	7,500,000	
SEMITRAILER 22 1/2 T M871	5,600,000	8,300,000		
SEMITRAILER TANKERS	6,700,000	8,400,000	9,700,000	
HI MOB MULTI-PURP WHLD VEH (HMMWV)	2,400,000	3,700,000	39,100,000	
MEDIUM TACTICAL VEHICLE FAMILY (FMTV)	163,100,000	59,500,000	37,900,000	
TRUCK FIREFIGHTING, TACTICAL	2,500,000	1,800,000	1,200,000	
TRUCK UTILITY HVY VARIANT (FHTV)	82,000,000	65,100,000	68,300,000	
TRUCK, TRACTOR, LINE HAUL M915/M916	43,300,000	42,900,000	24,200,000	
SHF TERM			26,000,000	
ACUS MOD PROGRAM	17,800,000	14,500,000	16,500,000	
COMMS-ELEC EQUIP FIELDING		3,200,000	1,800,000	
ALL SOURCE ANALYSIS SYS (TIARA)	2,000,000		45,500,000	
JOINT STARS (TIARA)			4,300,000	
ARTILLERY ACCURACY EQUIP	6,800,000			
MOD OF IN-SVC EQUIP (TAC SURV)	21,400,000	24,500,000	3,900,000	
FORCE XXI BATTLE CMD BRIGADE & BELOW (FBCB2)	4,500,000	12,500,000		
ADV FIELD ARTILLERY TACT DATA SYS (AFATDS)	49,300,000	37,000,000	53,400,000	
FAAD C2	6,200,000	13,300,000	24,400,000	
FORWARD ENTRY DEVICE (FED)	14,100,000	15,100,000	6,300,000	
LOGTECH	1,500,000	1,500,000	1,600,000	
GUN LAYING AND POSITIONING SLS (GLPS)	9,900,000			
ISYSCON EQUIP	2,100,000	12,700,000	8,100,000	
STAMIS TACTICAL COMPUTERS (STACOMP)	16,700,000	17,900,000	18,200,000	
AUTOMATED DATA PROCESSING EQUIPMENT	1,200,000	12,300,000	30,400,000	
RESERVE COMPONENT AUTOMATION SYS (RCAS)	55,400,000	11,600,000		
SMOKE & OBSCURANT FAMILY: SOF		4,100,000	8,900,000	
HANDHELD STANDOFF MINEFIELD DETECTION SYSTEM			900,000	
WIDE AREA MUNITIONS (REMOTE CONTROL UNIT)		900,000	900,000	
LIGHTWEIGHT MAINTENANCE ENCLOSURE (LME)	*			
FIELD FEEDING AND REFRIGERATION	2,500,000			
DISTRIBUTION SYSTEMS: PETROLEUM & WATER	8,700,000	13,200,000		
ASSAULT HOSELINE SYSTEM	2,100,000			
WATER PURIFICATION SYSTEMS	21,900,000	17,700,000		
COMBAT SUPPORT MEDICAL	1,000,000		800,000	
HYDRAULIC EXCAVATORS	1,100,000		3,700,000	
CRANES	1,800,000			
CRUSHING/SCREENING PLANT, 150 TPH	4,500,000	2,200,000	2,000,000	
GENERATORS AND ASSOCIATED EQUIP	9,900,000		4,900,000	
ALL TERAIN LIFTING SYSTEM	3,500,000	5,000,000	8,900,000	
TRAINING DEVICES - NONSYSTEM	36,500,000	6,000,000		
CALIBRATION SETS EQUIPMENT	400,000	400,000	400,000	
INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)	13,300,000			
TEST EQUIPMENT MODERNIZATION (TEMOD)	5,200,000	5,700,000	5,900,000	
INITIAL SPARES - C&E	2,200,000	600,000	800,000	
TOTAL	**925,800,000**	**954,500,000**	**742,400,000**	
* ITEMS LESS THAN $50,000				
# The above figures do not include ammunition				

National Guard and Reserve Equipment Appropriation (NGREA) Planned Procurements

NOTE: This table identifies the dollar-value of equipment programmed to be procured with National Guard and Reserve Equipment Appropriations (NGREA). These funds are available for a three year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from date of procurement before they arrive in the inventory .

NOMENCLATURE	*EQUIPMENT NO.*	*FY 1999*	*FY 2000*	*FY 2001*	*REMARKS*
AFIST (NEW)		1,800,000	3,400,000		
AEROMED HOIST	H39331	1,100,000			
HEMTT TANKER, M978	T87243	3,300,000	4,000,000	4,480,000	
SINCGARS RADIOS	VARIED	1,400,000	4,900,000	1,736,000	
T-801 UH-1 ENGINE UPGRADE		3,400,000			
SEMI-TRAILER, 22.5T M871A2	S70027	7,000,000			
CH-47 CRASHWORTHY FUEL CELLS		2,000,000	1,000,000	1,752,000	
JANUS (NEW)			900,000		
JANUS (UPGRADES)			700,000		
METEORLOGICAL MEASURING SYSTEM MMS	Z05088		2,800,000		
HMMWV CONTACT MAINT TRUCK	S25681		7,200,000	10,500,000	
HMMWV EOD CONTACT MAINT TRUCK	S25681		1,100,000		
UH-60 MAINTENANCE TRAINER			3,400,000		
ROLLER VIBRATOR	S12916		400,000		
AVCATT-ARMS AIRCRAFT SIMULATOR				5,000,000	
HEMTT WRECKERS	T63093			6,102,000	
PVS-7D NIGHT VISION GOGGLE	K36400			1,656,000	
AFIST (UPGRADE)				5,160,000	
M871A3 SEMI-TRAILER	S70027			7,200,000	
M1088 FMTV 5-TON TRACTOR	T61239			2,945,000	
D7 DOZER UPGRADES (RIPPER)	W83529			1,600,000	
HYDRAULIC EXCAVATOR (HYEX)	X10500			1,519,000	
TOTALS		**$20,000,000**	**$29,800,000**	**$49,650,000**	

ARNG
Expected Equipment Transfer and Withdrawal

NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transfered equipment is commonly called "cascaded equipment" or equipment that is provided to the RC once the Active receives more modern equipment items. Although this table highlights a three-year period, many Services do not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.

NOMENCLATURE	*EQUIP No.*	*FY 2002 QTY*	*FY 2003 QTY*	*FY 2004 QTY*	*REMARKS*
REINFORCEMENT SET,MEDIUM GIRDER BRIDGE	C27309		1		
GENERATOR SET,DSL ENG,TM,10KW,60HZ,MTD ON M116 PU	G40744			10	
GRADER,ROAD,MOTORIZED,SECTIONALIZED	J74886		9		
TRACTOR,FULL TRACKED,ARMORED M9 (ACE)	W76473	21	14	2	
TRUCK,DUMP,20T,12 CY M917	X44403			12	
MELIOS	M74849	9	49	96	
NIGHT VISION SIGHT,CREW SERV WPN AN/TVS-5	N04596		78	108	
NIGHT VISION GOGGLES AN/PVS-7B	N05482	2120	3283	1611	
RADIO SET AN/VRC-87A (SINCGARS)	R67160	3			
RADIO SET AN/PRC-112	R82903	118	202	31	
RADIO SET AN/VRC-119A (SINCGARS)	R83005			69	
SEMITRAILER,22-1/2 TON M871	S70027	4	77		
SEMITRAILER,HVY EQUIP TRANS SYS,70T (HETS)	S70859		24		
SEMITRAILER 5000 GAL POL	S73372	1	39	2	
TRUCK,M985,CARGO,W/MED CR (HEMTT)	T39586	2	6	6	
TRUCK,CARGO,TACTICAL,W/W&Wo/W M985 (HEMTT	T39654	9	3		
TRANSPORTER,PALLETIZED LOAD SYSTEM (PLS)	T40999	1			
TRUCK,TANKER,FUEL,2500G WW (HEMTT)	T58161	12	14		
TRUCK,TRACTOR,HEAVY EQUIP TRANS SYS (HETS)	T59048		24		
TRUCK,CARGO,4X4,LMTV M1078	T60081		120		
TRK 5 TON TRACTOR, FMTV M1088	T61239			239	
TRUCK,UTILITY,1-1/4 TON,M998,WE (HMMWV)	T61494		107	97	
TRUCK UTILITY CARGO/TROOP 1 1/4 TON M1038	T61562		16		
TRUCK,WRECKER,M948E1,8X8 (HEMTT)	T63093			16	
TRUCK,TRACTOR,LET M916	T91656		2	9	
TRAILER,PALLETIZED LOAD SYSTEM (PLS	T93761	6			
ARMORED PERSONNEL CARRIER,FISTV M113	C12155	1			
MULTIPLE LAUNCH ROCKET SYSTEM (MLRS)	L44894	9			
HELICOPTER,ATTACK AH-64 (APACHE)	H28647			1	
HELICOPTER,UTILITY UH-60A (BLACK HAWK	K32293		14		

ARNG
Planned vs Actual Prior Year Procurements and Transfers

NOTE: This table compares what the Services planned to procure and transfer to the Army National Guard in FY 1998 with actual procurements and transfers. Since the procurement cycle is normally one to two years from funding to delivery, this table identifies only what has been delivered through the end of FY 2000.

Nomenclature	*Equip No.*	*FY 98 Transfers*		*FY 98 Procurements*		*FY 98 NGREA*	*Planned*
		Planned	*Actual*	*Planned*	*Actual*	*Actual*	
HELICOPTER,OBSERVATION,OH-58D (KIOWA)	A21633	24,000,000					
HELICOPTER,CARGO,CH-47D (CHINOOK)	H30517	11,000,000					
HELICOPTER,UTILITY,UH-60A (BLACK HAWK)	K32293	111,000,000					
HOWITZER,MEDIUM,SP,155MM,M109A5	K57667	27,000,000					
HOWITZER,MEDIUM,TOWED,155MM,M198	K57821	54,000,000					
LASER INFRARED OBSERVATION SET,AN/PVS-5	N04456	600,000,000					
NIGHT SIGHT EQUIP THERIMG	N04596	6,000,000					
RADIO TEST SET,AN/PRM-34	R93169	6,000,000					
TANK,COMBAT,120MM,M1A1 (ABRAMS)	T13168	265,000,000					
TARGET DESIGNATOR SET,ELEC OPT	T26457	2,000,000					
TEST SET,TOW	T48686	6,000,000					
TRUCK,FORK LIFT,DD,4K LB,RT	T49255	8,000,000					
TRACTOR,FULL TRACKED,LOW SPEED	W76816	56,000,000					
UTIL/CARGO AIRPLANE MODS				100,000	123,000		
KIOWA WARRIOR	A21633			14,800,000	14,800,000		
MLRS MODS	L44894			500,000	530,000		
BRADLEY BASE SUSTAINMENT	VARIOUS			83,000,000	113,390,000		
FA AMMO SUP VEH	C10908			38,300,000	32,820,000		
BFVS SERIES (MOD)	VARIOUS			12,000,000	12,000,000		
HOWITZER, M109A6 (MOD)	H57642			54,800,000	54,800,000		
TANK, ABRAMS M1 (MOD)	T13374			7,000,000	7,000,000		
MACHINE GUN (SAW)	M09009			1,800,000	1,850,000		
CARBINE, M4	R97234			3,700,000	-		
SMALL ARMS (SOLDIER ENH PROG)				1,800,000	23,000		
SPARES AND REPAIR PARTS (W&TCV)				700,000	-		
SEMI-TRAILER TANK 7500G	S73119			400,000	170,000		
FHTV	VARIOUS			59,000,000	-		
ITEMS LESS THAN $5.0 M (TAC VEH)				600,000	-		
COMMS-ELEC EQUIP FIELDING				400,000	400,000		
ARTILLERY ACCURACY EQUIP				700,000	-		
ADV FA TAC DATA SYS (AFATDS)				5,200,000	5,560,000		
LOGTECH				7,800,000	7,800,000		
STAMIS TACTICAL COMPUTERS (STACOMP)				1,500,000	1,460,000		
AUTOMATIC DATA PROCESSING EQ				400,000	-		
RESERVE COMP AUTOMATION SYS (RCAS)				68,800,000	68,800,000		
ITEMS LESS THAN $5.0 M (CSS-EQ)				200,000	-		
HYDRAULIC EXCAVATOR	X10500			800,000	600,000		
ITEMS LESS THAN $5.0 M (CONSTR-EQ)				2,200,000	-		
TRAINING DEVICES, NONSYSTEM				10,200,000	10,220,000		
SIMNET/CLOSE CMBT TAC TRAINER				20,600,000	20,630,000		
FIRE SUP COMBINED ARMS TAC TRAINER				2,300,000	2,300,000		
CALIBRATION SETS EQ				200,000	180,000		
TEST EQ MODERNIZAITON (TEMOD)				3,200,000	3,150,000		
INITIAL SPARES C&E				700,000	700,000		
TRUCK, 2 1/2 TON EXT SERVICE PROGRAM (ESP)						5,000,000	5,000,000
ARMOR FULLY INT SIMULATION TRAINER (AFIST)						12,252,000	12,300,000
AVIATION RECONFIG MISSION SIMULATOR (ARMS)						-	-
NIGHT VISION GOGGLES, AN/PVS-7B/D	N05482					6,618,000	4,800,000
FUEL CELLS, CH-47D HELICOPTER						5,000,000	5,000,000
UNIT LEVEL LOGISTICS SYSTEM-AVIATION (ULLS-A)						2,000,000	2,000,000
JANUS (NEW)						1,600,000	1,600,000
TRUCK,TRACTOR 5 T FMTV M1088	T61239					13,117,000	12,300,000
GUN LAYING POSITIONING SYSTEM-GLPS	Z48867					1,183,000	1,200,000
GUARDFIST II						930,000	900,000
AEROMED HOIST						-	-
HEMTT TANKER, M978	T87243					-	-
MANEUVER CONTROL SYSTEM						-	1,900,000
METEORLOGICAL MEASURING SYSTEM-MMS	Z05088					5,000,000	5,000,000
TELECOMMUNICATION SWITCH UPGRADE FOR Y2K						6,200,000	6,200,000
WATER PURIFICATION 3000GPM TM	W47225					-	-
ENGAGEMENT SKILLS TRAINER						2,690,000	2,600,000
TBD						650,000	-
TOTAL		**$ 1,176,000,000**		**$ 403,700,000**	**$ 359,306,000**	**$ 62,240,000**	**$ 60,800,000**

Major Item of Equipment Substitution List

NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is able to be deployed in wartime. This data meets the Title 10 requirement to identify equipment that is not the most desired item of equipment.

Required Item Nomenclature	*Required Item Equip No.*	*Substitute Item Nomenclature*	*Substitute Item Equip No.*	*FY 2002 QTY*	*Deployable Yes*	*No*
ALARM,CHEMICAL AGENT,AUTOMATIC,M8A1	A32355	ALARM CHEMICAL M8, M42 & NON-STD	VARIOUS	1721	X	
CARRIER,MORTAR,120MM,SP,ARMORED	C10990	CARRIER MORTAR M106A1	D10741	38	X	
ARMORED PERSONNEL CARRIER,FISTV	C12155	CARRIER PERSONNEL M113 VARIANTS	VARIOUS	23	X	
CARRIER,SMOKE GENERATOR,FT,ARMD M1059	C12815	VARIOUS SYSTEMS-WHEELED	VARIOUS	6	X	
ARMORED PERSONNEL CARRIER M113A3	C18234	CARRIER PERSONNEL M113A2	D12087	1227	X	
CRANE,WHEEL MOUNTED,20T	F39378	VARIOUS SYSTEMS-WHEELED	VARIOUS	78	X	
INFANTRY FIGHTING VEHICLE M2A2 (BRADLEY)	F40375	INFANTRY FIGHTING VEHICLE M2A0	J81750	176	X	
CRANE-SHOVEL,CRAWLER MOUNTED	F40474	CRANE TRK 25T	VARIOUS	3	X	
ATEC CRANE	F43429	CRANE WHL	VARIOUS	25	X	
CRUSH & SCREEN PLANT,75TPH	F49399	CRUSH SCREEN AND WASH	VARIOUS	6	X	
CAVALRY FIGHTING VEHICLE M3A2 (BRADLEY)	F60530	CAV FIGHTING VEHICLE M3A0	C76335	39	X	
GENERATOR SET,DSL ENG,TM,10KW,60HZ,MTD ON M116 PU	G40744	GAS AND DSL GENERATORS, 5-30KW	VARIOUS	76	X	
GENERATOR SET,DSL ENG,SKID MTD,3KW,60HZ,AC,120/208	G54041	GAS AND DSL GENERATORS	VARIOUS	1846	X	
HELICOPTER,UTILITY UH-60L (BLACK HAWK)	H32361	HELICOPTER UTILITY, UH-1H & UH-60A	VARIOUS	26	X	
HELICOPTER,ATTACK AH-1F (COBRA)	H44644	HELICOPTER OBSERVATION OH-58A/C	VARIOUS	18	X	
TACTICAL FIRE TRUCK	H56391	TRUCK FIRE FIGHTING	VARIOUS	15	X	
HOWITZER,MEDIUM,SP,155MM M109A6 (PALADIN)	H57642	HOWITZER,MEDIUM,SP,155MM M109	H57642	53	X	
GENERATOR,PU-405	J35492	GENERATOR, GAS AND DSL	VARIOUS	131	X	
GENERATOR SET,DIESEL ENGINE,5KW	J35813	GENERATOR SET,GAS AND DIESEL ENGINE,3-5KW	VARIOUS	585	X	
GENERATOR SET,DIESEL ENGINE,30KW	J36383	GENERATOR SET,GAS AND DIESEL ENGINE	VARIOUS	124	X	
GRADER,ROAD,MOTORIZED,FRONT WHEEL STEER	J74852	GRADER,ROAD,MOTORIZED	VARIOUS	27	X	
GRADER,ROAD,MOTORIZED,SECTIONALIZED	J74886	GRADER,ROAD,MOTORIZED	G74783	1	X	
GRADER,ROAD,MOTORIZED,10FT BLADE	J74910	GRADER,ROAD,MOTORIZED	VARIOUS	11	X	
HELICOPTER,UTILITY UH-60A (BLACK HAWK)	K32293	HELICOPTER UTILITY, UH-1H & UH-60L	VARIOUS	56	X	
KITCHEN,FIELD,TRAILER MOUNTED,MTD ON M103A3 TR	L28351	TENT KITCHEN UNITS	VARIOUS	112	X	
LAUNCH,M60 TANK CHASSIS	L43664	LAUNCH M48 SERIES TANK	VARIOUS	14	X	
MASK,CHEMICAL BIOLOGICAL M40	M12418	MASK PROTECTIVE M17A1	M11895	48731	X	
NIGHT VISION SIGHT,CREW SERV WPN AN/TVS-5	N04596	BINOCULAR S & OTHER NIGHT VISION	VARIOUS	2808	X	
NIGHT VISION GOGGLES AN/PVS-7B	N05482	BINOCULAR S & OTHER NIGHT VISION	VARIOUS	16,560	X	
RADIO SET (SINCGARS) ALL MODELS	VARIOUS	VRC-12 SERIIES RADIOS	VARIOUS	15794	X	
RECOVERY VEHICLE,FT,MDM M88A1	R50681	REC VEH FT LT AR M578	R50544	42	X	
RIFLE,5.56 MM M16A2	R95035	RIFLE,5.56 MM M16A1	R94977	49121	X	
VIBRATOR ROLLER	S12916	VARIOUS ROLLER SYSTEMS	VARIOUS	42	X	
SHOP SET,CONTACT MAINTENANCE	VARIOUS	CUCV SERIES TRUCKS W/WO SHELTERS	VARIOUS	243	X	
SEMITRAILER,22-1/2 TON M871	S70027	SEMI TRAILERS VARIOUS MODELS	VARIOUS	1262	X	
SEMITRAILER,FB,TRANSPORTR,34T	S70159	SEMI TRAILERS VARIOUS MODELS	VARIOUS	50	X	
SEMITRAILER,LOW BED,40 TON,6-WHEEL	S70594	SEMI TRAILERS VARIOUS MODELS	VARIOUS	116	X	
SEMITRAILER,HVY EQUIP TRANS SYS,70T (HETS)	S70859	SEMITRAILER,HVY EQUIP TRANS SYS,60T	S70859	39	X	
SEMITRAILER 7500 GAL POL	S73119	SEMI TRAILERS VARIOUS MODELS	VARIOUS	46	X	
SEMITRAILER 5000 GAL POL	S73372	SEMI TRAILERS TANKERS VARIOUS MODELS	VARIOUS	108	X	
TRUCK UTILITY: HEAVY VARIANT HMMWV 4X4 10000 GVW	T07679	TRUCKS, CUCV THROUGH 5 TON	VARIOUS	455	X	
TANK,COMBAT,120MM M1A1 (ABRAMS)	T13168	TANK,COMBAT,105MM M1 (ABRAMS)	T13168	21	X	
TRUCK,CARGO,TACTICAL,W/W-LT CR (HEMTT)	T39518	TRUCK CARGO 2 1/2 TON	VARIOUS	154	X	
TRUCK,M985,CARGO,W/MED CR (HEMTT)	T39586	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	134	X	
TRANSPORTER,PALLETIZED LOAD SYSTEM (PLS)	T40999	TRUCK CARGO PLS M1074	T41067	89	X	
TRANSPORTER,PALLETIZED LOAD SYS W/MHE (PLS)	T41067	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	153	X	
TRAILER HEMATT M989A1 (MLRS)	T39518	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	154	X	
TRUCK,TANKER,FUEL,2500G WW (HEMTT)	T58161	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	87	X	
TRUCK,TRACTOR,HEAVY EQUIP TRANS SYS (HETS)	T59048	TRUCK TRACTOR HET M911 & M916	VARIOUS	41	X	
TRUCK,CARGO,10TON,W/LT CRANE (HEMTT)	T59278	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	261	X	
TRUCK,CARGO,4X4,LMTV M1078	T60081	TRUCKS, 2 1/2 TON THROUGH 5 TON	VARIOUS	198	X	
TRUCK,UTILITY,1-1/4 TON,M998,WE (HMMWV)	T61494	TRUCKS, CUCV 3/4 TON TO 5/4 TON	VARIOUS	5817	X	
TRUCK,CARGO,MTV W/E M1083	T61908	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	30	X	
TRUCK,WRECKER,M948E1,8X8 (HEMTT)	T63093	TRUCK WRECKER 5 TON	X63299	278	X	
TRUCK,LIFT,FORK,10K,VARIABLE REACH (ATLAS)	T73347	TRUCK FORK LIFT 6 & 1OK	VARIOUS	10	X	
TRUCK,TANKER,FUEL,2500G (HEMTT)	T87243	TRUCK WITH FUEL POD 2 1/2 & 5 TON	VARIOUS	621	X	
TRUCK,UTILITY,1-1/4 TON,M1025,ARM (HMMWV)	T92242	TRUCKS HMMWV AND CUCV	VARIOUS	160	X	
TRUCK,UTILITY,1-1/4 TON,M1026,TOW (HMMWV)	T92310	TRUCKS HMMWV AND CUCV	VARIOUS	619	X	
TRUCK CARGO LMTV M1089	T94709	TRUCKS FIVE TON	VARIOUS	11	X	
TRACTOR,FULL TRACKED,ARMORED M9 (ACE)	W76473	TRACTOR FULL TRACK D7F	W76816	3	X	
TRACTOR,FULL TRACKED,LOW SPEED	VARIOUS	TRAC FULL TRACK SLOW SPEED DOZER	VARIOUS	416	X	
TRUCK,CARGO,5T,DROP SIDE WW	X40931	TRUCK CARGO 5 & 2 1/2 TON	VARIOUS	348	X	
TRUCK,DUMP,5T,6X6,W/E M929	X43708	TRUCK 5 TON DUMP	X43845	156	X	
TRUCK,DUMP,5T 6X6 WW WE	X43845	TRUCK 5 TON DUMP	VARIOUS	134	X	
TRUCK,DUMP,20T,12 CY M917	X44403	TRUCK 5 TON DUMP	VARIOUS	14	X	

ARNG
Significant Major Item Shortages

NOTE: This table provides an Army National Guard top ten prioritized (PR) unfunded list for major items of equipment required for wartime missions but which are currently not funded in the FYDP. It lists the total quantity required, the total unfunded requirement (UFR), and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.

PR	NOMENCLATURE	TOTAL QTY REQ'D	UFR QTY	UFR COST	RATIONALE / JUSTIFICATION
1	UH-60 BLACK HAWK HELICOPTER	803	123	1,934,117,000	Funding procures required UH-60s to fill vacancies left by retiring UH-1s and begins conversion of utility fleet to multi-function battalion structure. Buys 3 multi-functional lift companies of 10 aircraft per year (includes funded quantities). Does not address the 126 required aircraft in remaining FP4 units. Total remaining requirement is $2.1B
2	M109A6 155MM SELFPROPELLED HOWITZER PALADIN	576	252	580,000,000	Buys 14 bn sets (252) to equip 3 teaming divisions and 6 divisional 155SP battalions. FY02 UFRE funding will buy 4as well as the rest of the ARNG requirements.
3	FAASV	576	252	336,000,000	Buys 14 bn sets (252) to equip 3 teaming divisions, as well as the rest of the ARNG requirements.
4	SINCGARS RADIOS BUYOUT	55095	35000	402,500,000	Procures 35,000 SINCGARS ASIP radios required to satisfy Total Force requirements. Completes ARNG requirement through FP4 Divisional units, and removes obsolete VRC 12 Family of radios from Army inventory.
5	EPLRS ACCELERATION	1139	1139	61,900,000	Provides ARNG separate bde set. Procures in out-years for Air Defense Corps Avenger Battalions (Includes 1 NCS per Battalion). Gives ARNG early capability to pass large volumes of digital information on the battlefield enhancing near-term interoperability.
6	BRADLEY FIGHTING VEHICLE SERIES MOD (A0 TO A2ODS)	786	468	661,400,000	Upgrades Bde/Bn set of A0 model BFVS to A2ODS configuration (including variants BFIST/MUA). Necessary for combat overmatch capabilities equal to AC maneuver force, and upgrade a BFV fleet becoming essentially obsolete.
7	LIGHT FORWARD OBSERVER SYSTEM, STRIKER	126	126	95,400,000	Funds 3 Battalions/per year. Includes $400K/Bn setup. Works towards fielding requirements of heavy and light ARNG maneuver force. Present plan is to decrease the Striker line for BFST ODS package as M2A2ODS systems are fielded to the ARNG.
8	FMTV 5 TON TRUCK MEDIUM TACTICAL VEHICLE VARIANT	4942	4752	622,000,000	Extends the fielding of Medium Tactical Vehicles (MTV) from FY04 to FY07 supporting the Army's Vision and transformation. 4,752 5-Ton trucks are the ARNG unfunded requirements needed to complete ARNG FP1 and 2 requirements by FY07.
9	M88A2 HERCULES MEDIUM TANK RECOVERY VEHICLE	989	146	463,000,000	First year buys set for 278th ACR (TN), remainder funds 8EA eSB at 1 BDE per year. Transformation of AC units will require the eSBs to backfill the affected Division. This requires the eSBs to have recovery operation vehicles that are capable to perform the increased mission, as well as being safe.
10	MLRS 3x6 CONVERSION (CONVERTS HOWITZER UNITS TO MLRS)	0	0	67,000,000	Funds 3 battalions of ASIOE ($37.6M) and HEMTT Trucks and HEMAT trailers ($29.4M) for conversion to MLRS. CSA Directed. Supports FY02 POM of $11.7M with long-lead items.

III. UNITED STATES ARMY RESERVE OVERVIEW

a) Current Status of Equipment

(1) General Overview: The USAR is the key provider of CS/CSS forces and will adapt to the changing national security environment in support of the Army Chief's of Staff (CSA) transformation vision. The spectrum of future operations identifies a need for land forces in joint, combined, and multinational operations for a variety of missions extending from humanitarian assistance and disaster relief, to peacekeeping operations, MTWs, and conflicts involving the potential use of weapons of mass destruction

USAR transformation is critical to meet military challenges over the next century. Exploiting the revolution in military affairs is fundamental to success, and the USAR must be an integral and viable part of the Army. The USAR must leverage technological, doctrinal, operational and organization innovation, and change to ensure a capable and flexible force. Modern equipment is key to USAR readiness. Since the USAR is the primary source of CS/CSS support units for the Army, adequate funding for equipment is very important.

Equipment has traditionally been provided to units based on their wartime mission, with the most modern equipment going to the units that would deploy first. Later deploying units generally rely on older equipment. However, there is a fundamental disconnect in this policy when it comes to the USAR. Late deploying units for an overseas crisis could be the first deployed for a peacetime engagement or natural disaster. Because of the equipping policy, there are significant equipment incompatibilities between the active Army and the USAR. Since the Army continues to support a wide variety of small-scale contingencies that often require more CS/CSS units than combat forces, the Army's equipping policy may need revision.

Due to limited resources, equipping and modernization of the USAR remains a challenge. The USAR is equipped as a result of direct purchases of new equipment, by rebuilding older systems, through modernization, and cascading of equipment from the active Army. The Army expends less than 6 percent of its Total Obligation Authority (TOA) to purchase new CS/CSS equipment. At the same time the USAR provides 31 percent of the CS and 45 percent of the CSS assets to the war fight. Additionally, the balance of dollars expended favors funding major combat weapon systems, thus promoting an acquisition philosophy that severely affects the capability of the USAR to fulfill its wartime mission.

Since Operation DESERT STORM, the USAR has averaged less than 6 percent of the annual Service Procurement (P-1R) Budget. The USAR requires a steady state funding rate commensurate with projected requirements to halt the erosion of readiness and to ensure interoperability. The shortfall, in funding USAR equipment requirements, impacts mission success for the war fighting CINCs. In a theater with mature, resource rich, economic environment, such shortfalls maybe mitigated by acquisition and/or contracting of Host Nation and/or commercially available and mission compatible equipment and/or services. As the following table shows, the equipment shortfall in the USAR can have major impacts in theaters

with an immature and austere economic environment, where Host Nation Support and acquisition and contracting from commercial sources are neither available nor reliable.

Chart 1
Impact of Equipment Shortfalls

Equipment Categories	Fill Rate *	Impact	Status
Port Equipment & Watercraft	62%	Reduced/Delayed deployment/sustainment through ports	Yellow
Rough Terrain Materiel Handling Equipment	62%	Reduced ammo/food/supplies throughput	Yellow
Air Delivery Equipment	67%	Reduced emergency aerial resupply	Yellow
Power Generating Equipment	31%	Inability to conduct 24 hour operations/constrained commo/log auto use	Red
Line of Communications/ Base Support Equipment	66%	Reduced ability to sustain support in extended operations	Yellow
HEMTT Tankers/Wreckers	61%	Reduced support to sustainment opns at operational and tactical levels	Yellow
Logistics Automation Systems	60%	Constrained/delayed management of ammo, repair parts and supply inventories and transportation operations	Red

* Fill rate includes substitute items of equipment that are not the most desirable equipment item.

Under the Army transformation plan the legacy, or existing force, will survive until 2032, with certain legacy systems remaining as part of the future Objective force. To sustain the current force capability, many of these systems require recapitalization. Current Army recapitialization programs do not include many CS/CSS systems vital to USAR potential missions. Today, over 75 percent of USAR systems exceed the Secretary of Defense's half-life goals.

(2) Status of Equipment

(a) Equipment On-Hand: Overall, the USAR equipment on-hand percentage, as reported on Unit Status Reports, remains generally static and unchanged from last year. This may be attributed to a decrease in the NGREA and Army procurement deliveries. The USAR anticipates shortages through FY 2001 and beyond. Additionally, a number of early deploying FSP 1 & 2 units are short critical and/or mission essential equipment causing degradation in readiness reporting.

With regard to mission essential equipment the USAR has 93 percent of its required Pacing and Equipment Readiness Code A items. This percentage includes substitute items that are authorized in accordance with regulatory guidance; however, this older equipment may cause capability problems with the Active component. Consequently, some of the equipment on-hand may not perform as required, or it may perform at a reduced capability, causing mission

degradation. It is important to note that this percentage represents current equipment and not modernization requirements.

(b) Average Age of Major Items of Equipment: Several major items of equipment in the USAR are near or past their economical useful life. Aging equipment means operational and sustainment costs will continue to increase while equipment serviceability rates decrease; thereby, negatively impacting unit readiness. Recent recapitalization initiatives will play a vital role in improving half-life metrics of Army equipment. Currently, competing resources make it difficult to recapitalize USAR systems. Further, the Army's 21 recapitalized systems will not allow the USAR to achieve the half-life goal. Pending changes to Army recapitalization programs, the USAR must rely on limited overhaul, rebuild, and conversion programs for existing equipment to maintain readiness and ensure mission accomplishment.

(c) Compatibility of Current Equipment with the Active Component: As a result of incremental modernization of Army units, USAR equipment compatibility and unit interoperability require constant attention. The dynamic global environment requires that military forces have the added flexibility of modern equipment systems. Increasing demands on the military to respond to small-scale contingencies around the world means that the USAR must be properly equipped to perform the mission. Moreover, the increased use of Reserve forces in support of operational missions has highlighted the importance of having compatible equipment. All components must be seamlessly integrated into contingency operations and wartime scenarios. A key to this integration is ensuring equipment is both operationally and logistically compatible. Without complete interoperability the capacity of the USAR to offer mutual support would be degraded and effectiveness of the force would suffer.

In addition, the retention in the USAR of equipment not fielded in the AC results in a greater complexity in the support infrastructure from national to unit levels. More extensive inventories of components, consumables and spare/repair parts have to be procured and maintained at all echelons of support to sustain additional lines of equipment peculiar to the USAR. Mechanics must attain and retain skills in maintaining and repairing both end items and components not normally introduced within initial entry training or the AC. Soldiers must be trained and/or retrained to operate equipment not found at either initial entry training sites or in the AC. All of these situations create and sustain a hidden cost, both in funds and equipment and personnel resources, first on the resources of the USAR and then, on the resources of the war fighting CINC, when deployed to a theater.

Modernization of USAR equipment is key to ensuring this complex concern is mitigated. Reserve equipment modernization, variance in operational characteristics, and logistical support requirements decrease Reserve integration. From a purely economic standpoint, modernization of USAR equipment reduces associated requirements (training, spares, ammunition, etc.) needed to maintain a capability provided by an assortment of modern and legacy systems. As a result of an Active and Reserve component equipment compatibility study completed in FY 2000, the following equipment was deemed obsolete or less than fully capable:

FY 2000 USAR Obsolete Equipment

M-17 Protective Masks	Laundry Units
Crushing Screening & Washing Plant	40-Ton Crane
Commercial Utility Cargo Vehicle (CUCV)	

The following equipment, while not obsolete, is less capable and more maintenance intensive:

Compactors, Plate/High-Speed	Materiel Handling Equipment
3/5/10 KW Generators	Yard Truck
Trailers Over 5T	Bridge Transporter
4K Forklifts, RT	Bath Units
Fire Truck	75-Ton Asphalt Mixing Plant
2 1/2 Ton Truck (M-35 Series Trailers)	25-Ton Cranes
Maintenance Contact Truck	Medical Sets
Armored Vehicle Launched Bridge	Medium Girder Bridge
5 Ton Truck (family)	5-Yard Scoop Loader

The Army's goal to improve compatibility incrementally, within the constraints of its TOA, becomes a question of affordability. Additional procurements are required to offset Army funding shortfalls and insure USAR first-to-fight/support units are first equipped. Because the Reserves deal with such constrained resources, creativity in developing ways to stretch these resources and extend the life of existing equipment is essential. The USAR increasingly relies on limited overhaul and re-build programs of existing equipment to retain mission capabilities. Army digitization initiatives appear to accelerate incompatible and obsolete equipment, while the FYDP only addresses the first digitized corps, leaving USAR EAC units at risk.

Cross-leveling and upgrading existing equipment through refurbishment programs must be used to meet current equipment requirements. Mechanisms for identifying authorized substitute end items may need extensive review. These initiatives free some resources that are used to procure the highest priority requirements. The systems listed above reduce the effectiveness of training and readiness of USAR units because they are obsolete and incompatible. This problem is addressed through USAR conversion and modification programs.

As the Army transformation plan is implemented, the USAR will require equal consideration for modernization of equipment to ensure interoperability with the AC and ARNG. Cascaded AC CS and CSS equipment to the USAR is currently minimal, future planned force structure changes indicate no change to this trend. However, there will be a greater demand for these limited resources with the conversion of ARNG combat structure to CS/CSS through the ADRS.

(d) Maintenance Programs

(1) Field Level Maintenance: The operational readiness rate in the USAR is 95 percent for reportable equipment; however, this percentage represents less than 10 percent of all USAR equipment. Readiness rates remain high because most of the emphasis is provided on

the reportable equipment. Furthermore, it is estimated that 44 percent of all USAR equipment is not receiving scheduled services or those services have been deferred due to shortages of military technicians.

USAR maintenance activities, called Area Maintenance Support Activities (AMSA), have been established to perform unit level maintenance beyond the unit commander's capability or beyond the time constraints during schedule training assemblies. The maintenance activities are designated as (G) for ground support equipment, (W) for watercraft, or (G/W) for ground and watercraft. Average staffing for the AMSA is 10-12 personnel. Currently, AMSA shops are staffed at 50 percent of authorizations and those requirements are based upon the density of supported equipment. The USAR currently has a plan to eliminate this shortfall, which was validated in the budget process but is currently unfunded. This plan will cost of $1.3 million. Simply stated, the USAR is currently facing a 4.5-million man-hour maintenance backlog, which translates into a $380 million funding shortfall since FY 1999. The USAR has developed a program to modernize and reduce the numbers of its facilities. They have done this by leveraging commercially available services and acceptable practices to reduce the backlog and the annual cost of the equipment and personnel resources needed to maintain USAR equipment readiness. This program is called ARLOG XXI and would require a capital investment of $164 million.

In addition to AMSA, USAR Equipment Concentration Sites have a maintenance branch with an area support mission, along with a storage branch for equipment beyond the capability of an owning unit commander to store, maintain, or utilize at home station. To reduce maintenance requirements and increase the service-life of equipment, the USAR is pursuing the use of Controlled Humidity Storage (CHS). This program places unit sets of equipment in CHS at storage sites collocated at strategic locations near ports of embarkation, including overseas ports. It will not only reduce USAR maintenance costs, but support overseas training objectives of the USAR and the war fighting CINCs, while increasing the readiness and speed of deployment of high demand USAR units to the war fight. The initial capital investment required to execute this program is $256 million.

(2) National Level Maintenance: Dealing with limited funding, the USAR has been forced to become very creative in developing ways to stretch funds and extend the life of existing equipment. The USAR relies on limited overhaul and re-build programs of existing equipment to retain mission capabilities. Upgrading existing equipment, through rebuild initiatives and depot maintenance funds, is used to extend the service life of equipment.

In partnership with industry, the USAR is working to infuse commercial design concepts into CSS improvement initiatives. This will allow the USAR to use commercial industry for the manufacture of CSS equipment and follow-on rebuild/overhaul. The USAR fully understands the unique requirement for maximization of all equipment funding sources, and encourages the Army to design equipment with the intent to remanufacture. In conclusion, all new equipment procurements should include both prognostics, as well as, diagnostics as part of its design and manufacture.

(3) Sustainment Initiatives: The following initiatives are examples of how the USAR has partnered with industry to design and implement total rebuild and refurbishment programs.

M109A4 Shop Van

In February 2000, the USAR successfully completed two M109A4 Shop Van Proof of Principle (POP) upgrades at their Installation Materiel Maintenance Activity facility, Fort McCoy, WI. The M109A4 Shop Van Truck is designed to function as a mobile repair shop van that can also be used to transport special equipment requiring protection from dirt, dust, and moisture. The original M109A3 bodies were removed from their M35A2 truck chassis. The chassis underwent an ESP, while the van body was disassembled, modified, and upgraded, before reinstalled it onto the 2½ - ton ESP M35A3 chassis. This created the new M109A4 configuration.

M878/M878A5-ton Tractor

The M878/M878A1, 5-ton Tractor is designed for terminal yard operations such as spotting and moving trailers. The USAR is authorized 162 M878 Tractors and has 33 on-hand. NGREA resources will purchase an additional 59 Tractors between FY 2002 and 2004. Ottawa Truck, the original manufacturer, is conducting a proof of principle to install a new cab, controls, instrumentation, and wiring on the older model of Tractor (1978), which will extend the projected service life.

MACI Fire Truck

The military acquired commercial item (MACI) truck, Model 2500L, is designed to conduct aircraft crash, fire and rescue operations, and is also capable of fighting ground and structural fires. Extensive analysis of this tactical fire fighting truck (TFFT) revealed that the overall condition of the fleet was deteriorating, a shortage of spare parts existed, and performance problems continued to plague the vehicle.

Based on these issues, and the necessity to continue to use at least a portion of these vehicles until new fire trucks are introduced into the inventory, the USAR planned and conducted a POP upgrade and repair of a single TFFT. Objectives of the upgrade POP included improving operational capabilities, effectiveness, and safety including upgrading the water pressure system; carrying more and larger hose; modifying the ladder lift system; adding a warning light to indicate ladder position; increasing vehicle visibility with upgraded emergency lights; upgrading

the siren system; increasing crew seating safety and convenience; eliminating the truck stability problems; and establishing a repair parts support.

The United States Army Reserve Command is scheduled to begin operational test and evaluation of the POP vehicle in November 2000 at Fort McCoy, WI. Once test results and evaluations are finalized, USAR leadership will decide how many of the 48 remaining required trucks to upgrade. The cost of the repair/upgrade of the POP TFFT is approximately 17-21 percent of the cost of a new TFFT.

The Lubricating and Servicing Unit (Lube Unit)

The lubricating and servicing unit is a trailer-mounted, self-contained gasoline-powered unit equipped for heavy duty servicing and lubrication of all types of equipment and components. The USAR lube unit fleet was manufactured in the late 1960's to early 1970's and has exceeded its projected 20-year service life. Records indicate that the USAR is authorized 162 units; however, only 114 are on-hand, resulting in a deficit of 48 units.

The findings of a recently conducted feasibility assessment propose initiating a two phase proof of principle program. The first phase will replace the gasoline engines and exhaust systems with diesel engines and new exhaust systems on, yet to be acquired, condition code "A" Lube Units. The second phase proposes overhauling the on-hand fleet by using the first phase product and upgrading, replacing or rebuilding all deficient systems.

4000-lb Forklifts

There are three models of the 4,000-lb forklift, the MHE-237, MHE-270 and MHE-271 forklifts. The MHE-237 forklift was manufactured during the 1981-1983-time period and is past its expected 15-year economic useful life. The other models were manufactured between 1995 and 1996. The USAR is authorized 726 of these forklifts and has 670 on-hand. By FY 2005, the USAR is projected to need 690. It is not likely that additional MHE-237s will be cascaded to the USAR. Consequently, a shortfall of about twenty 4000-lb. forklifts will remain for some time.

The USAR has initiated a POP partial overhaul of one MHE-237 forklift to determine the economic feasibility of the program and document overhaul procedures, and to assess the most cost effective method of sustaining the 4000-lb forklifts in the future.

10K Forklift

The 10k Forklift has a capacity of 10,000 pounds, a 48-inch load center, and can lift a load to a maximum of 121.6 inches. It has an estimated useful life of 15 years. There are 423 of these forklifts on-hand in the USAR. The forklift was manufactured and fielded in the 1979-1985 time period and is past its expected 15-year life span. The all terrain lifter Army system (ATLAS) replaces this forklift. The USAR will be authorized 1009 ATLAS forklifts by 2007, but is only scheduled to receive 762. Consequently, 247 of the older 10K forklifts will still be needed to meet requirements. The USAR implemented a program to evaluate the 10K forklift fleet and to investigate an extended service program. As Tank and Automotive Command fields new forklifts, excess forklifts can be cycled through the maintenance facility for repair and reissue.

(e) Modernization Shortfalls: The Army's modernization strategy included five goals: (1) Digitize the Army, (2) Maintain combat overmatch, (3) Sustain essential research and development, (4) Recapitalize the force, and (5) Integrate the Active and Reserve components. As the Army modernizes its weapon systems (the Army's highest priority equipment), legacy systems are often redistributed to the Reserve component, but the majority of this equipment is combat arms related and not authorized in the USAR inventory.

CS/CSS Transformation is a vital link to the Army Transformation Plan and the USAR is the main provider of this capability. It is critical that equipment programmed for receipt in the Reserve procurement exhibit (P-1R) be procured and distributed as planned. The Army must continue to modernize the Reserve components along a timeline that ensures that the Total Force remains interoperable and compatible.

Increased Operational Tempo and diversion of funds have stretched the useful life of equipment and reemphasized the need for recapitalization and replacement of various systems. The following list reflects some of those items that are most critical to the USAR in supporting Army requirements. These requirements are high dollar items that meet planned force structure initiatives of TAA 05 & 07.

UH-60 BlackHawk

The Black Hawk is a utility, tactical transport helicopter capable of a wide variety of missions. The Black Hawk enhances mobility by improvements in troop capacity and cargo lift capability compared with the UH-1 "Huey" it replaces. Based on the Army's Aviation Modernization Plan, the USAR will have two Black Hawk companies in its two "Multifunctional" Battalions. The FY 2001 Appropriations Act provides $78.3 million for the purchase of eight Black Hawks for the USAR. The requirement is 24, thus, the remaining unfunded requirement is 16 for a total cost of $179 million.

Family of Medium Tactical Vehicles (FMTV)

The Family of Medium Tactical Vehicles (FMTV) will replace over-aged and maintenance-intensive trucks currently in the medium tactical vehicle fleet. Typical missions include: line haul, local haul, unit mobility, unit re-supply and other missions in the combat, combat support and combat service support role. The FMTV consists of a common truck chassis that is used for several vehicle configurations in two payload classes. The Light-Medium Tactical Vehicle (LMTV) is available in van and cargo variants and has a 2.5-ton payload capacity. The Medium Tactical Vehicle (MTV) has a 5-ton payload and consists of the following models: cargo, tractor, wrecker, and dump truck. Total USAR requirement for FMTV is 11,767 vehicles, with a current total projected shortfall of 6691 vehicles.

High Mobility Multipurpose Wheeled Vehicle (HMMWV)

The HMMWV provides a common light tactical vehicle capability in a wide variety of environments. The HMMWV is produced in several configurations to support weapon systems, command and control systems, field ambulances, troop and general cargo transport, and replaces the CUCV. The average cost of the HMMWV is $57,300. The total USAR HMMWV requirement is 16,204; the total on-hand is 10,547 leaving a total projected shortfall of 5657 vehicles.

STAR-T

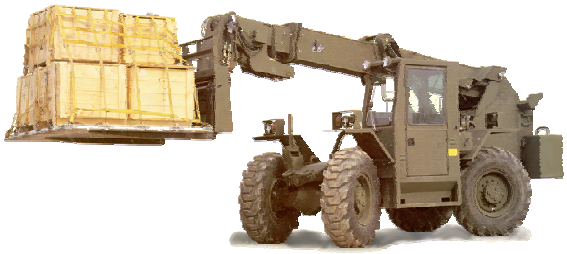
The Super High Frequency Tri-Band Advanced Range Extension Terminal (STAR-T) is a Multi-Channel Tactical Satellite Terminal that provides communication reach back for split-based, forward projected units. The STAR-T's integrated switch provides interface capability with commercial and joint military systems. The USAR has a requirement of 33 STAR-T. Each unit costs $1.85 million leaving a total unfunded requirement of $37 million.

Tactical Fire Fighting Truck (TFFT)

The mission of the TFFT is to respond, suppress and extinguish aircraft, petroleum, structural and wild fires. The TFFT is designed to meet critical demands of tactical deployment and extreme off-road mobility with multipurpose fire-handling capabilities. The TFFT will replace obsolete and maintenance intensive, MACI fire trucks. The USAR has a total requirement of 67 trucks at $500,000 each for a cost of $34 million.

CH-47 Aircraft

The CH-47's mission is to transport weapons, ammunition, equipment, troops and other cargo in support of combat units and operations other than war. The current requirement for CH-47 aircraft is 64, with 51 currently on-hand. Four CH-47 aircraft are designated to be transferred to the USAR as a result of TAA 05 Force Structure actions. The USAR utilized $22 million in NGREA funding to acquire and remanufacture one CH-47D airframe. However, the USAR still requires six additional aircraft.



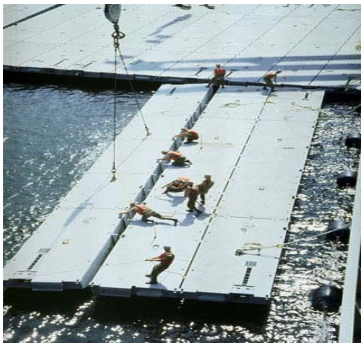
All Terrain Army Lifting System (ATLAS)

The ATLAS is a self-deployable rough terrain, manually operated forklift capable of operating efficiently in a wide variety of environmental conditions. The ATLAS lifts 10,000 lbs and can stuff and unstuff various sized containers. The USAR requirement is 1009 at a unit cost of $100,119 for a total unfunded requirement of $24,729,393.

Rough Terrain Container Handler (RTCH)

The 53K RTCH is a non-developmental military unique item with a modified commercial front lift truck capable of lifting, moving and stacking containers with an increased lift capacity from 50,000 to 53,000 pounds over the present system. This improved container handler is capable of operating on beaches, unimproved and improved surfaces, and can stack containers three high. The total USAR requirement is 281 and costs $525,000 for a total unfunded requirement of $15,225,000.

Modular Causeway System (MCS)



The MCS consists of a series of container-sized pontoons capable of multiple configurations to meet a variety of offshore logistics and engineer requirements. The MCS also offers a method of discharging dry cargo from Strategic Sealift Ships through sea state three during Joint Logistics Over the Shore operations and when moving cargo to shore in the event a port is denied, degraded, or not available. The USAR requirement is nine MCSs at an individual cost of $1.5 million leaving a total unfunded requirement of $13.5 million.

AN/PRC 138B Improved High Frequency Radio (IHFR)

The 138B IHFR belongs to a family of Combat Net Radios with a primary role of voice transmission for battle command communications. The 138B is designed to provide secure, long-range data and voice transmissions in a Joint tactical environment. The USAR requirement is 1218, the shortfall is 1003, and the average unit cost is $34,980, leaving a total unfunded cost of $35,084,940.

The above section lists only a few of the major systems critical to the success of the USAR in supporting Army war fighting requirements in the future. Additional USAR requirements are contained in a *Table 1*, Major Item Inventory and Requirements**.**

(f) Equipment Readiness: USAR units are improving at a rate slower than Active component units. This is primarily due to the lower equipment fielding priority of USAR units. As a result, some early deploying USAR units are short mission essential equipment that prevents them from meeting equipment on-hand readiness criteria. The Army Equipping Policy requires units to be fielded in a "first-to-fight, first-to-support" basis, yet Army Order of Precedence and operational requirements often divert assets that are critical to USAR equipment shortages.

As previously stated, the USAR has 93 percent of mission essential items on-hand. When authorized substitutes and in-lieu-of items are excluded, the USAR has 84 percent of required pacing items, and 87 percent of Equipment Readiness Code A items. These substitutes and in-lieu-of items, while authorized, are often less capable. Upgrading existing equipment through rebuild initiatives has extended the life of some items, freeing funds to purchase other required items. USAR modification programs have been the front-runners in developing new and innovative ideas for equipment modernization. When partnering with industry and employing USAR service members to enhance training, the USAR continues to rebuild, upgrade, and overhaul equipment.

In FY 2000, the USAR converted or modified the following systems to enhance equipment readiness:

44 - 3KW generators from gas to diesel engines.
55 - M915 Line Haul Tractors to the M915A4 Line Haul Tractor
15 - Gasoline engine 15 CFM compressors to the diesel engine
163 - M1037 HMMWV (Shelter Carriers) to M998 (Standard HMMWV)
17 - Bath and shower units to "Like New" configuration.
22 - M101A1 Trailers to the M101A2, and nine M101A2 to the M101A3.
19 - AVLB MLC 70 Upgrades.
12 - AVLB MLC 70 Upgrades from MLC 60
11 - M109 Shop van refurbishment and installation on ESP 2 ½ Ton Chassis

The USAR's acquisition plan for purchasing new equipment with NGREA is in line with known Army modernization plans. The following equipment was purchased with NGREA funds and delivered in FY 2000.

ATLAS All Terrain Forklift 10K	HEMTT Common Bridge Transport
2 ½ Ton Truck ESP	HMMWV CMT
All Terrain Crane (20T)	Night Vision Goggles
PLS Trailers	Hydraulic Excavators
Modern Burner Units	SAMS I/TDA
M915A4	Temper Tents

The following equipment was purchased with NGREA funds during FY 2000 for delivery in future fiscal years:

CH47D Chinook	HEMTT Common Bridge Transport
PLS Trailer	Vibratory rollers type I
FMTV	M915A4 Gliders
Yard Tractors M878	Modern Burner Units
Rough Terrain Container Handler	HMMWV Contact Truck

(g) Other Equipment Specific Issues

(1) Tactical and Support Vehicles: The current status of the tactical wheeled vehicle fleet continues to be a major concern for the USAR. In FY 1998, the Army eliminated the 2-½ ton and 5-ton cargo truck ESP and moved the resources to the FMTV program. Based on recent Congressional action, migration of dollars from the ESP, and planned Army procurements, the USAR should receive 4,730 of its required 11,767 systems by FY 2007. To date, the USAR has received only limited quantities of FMTVs. During FY 2000, the USAR committed $2.8 million to procure Common Bridge Transport (CBT) conversion kits and furthered its modernization program of HEMTT CBTs for the USAR's new Multi-Role Bridge Companies.

(2) Communication-Electronic Equipment: The USAR, while maintaining 13 percent of the Army's go to war signal capability, requires extensive support to bring signal units into the 21st Century. The USAR requires satellite terminals and position locating systems to remain mission capable and compatible with Active component signal units. It is essential that Command, Control, Communication and Computer modernization equipment is fielded concurrently to the USAR and AC to ensure a totally seamless digitized force.

Major systems projected for receipt by the USAR in FY 2000 and beyond as a result of Army Procurement (P1R), NGREA or modification/ rebuild programs include:

CH 47 Cargo (MODS)	Family of Medium Tactical Vehicles (FMTV).
HEMTT Fire Trucks	SINCGARS
M109 Shop Vans	M915 Line Haul Tractor
AVLBs MLC 70 Upgrades	M967A1 Fuel Tankers
M101A1 trailers to M101A2, A3s	C-12 Cargo (MODS)
Semitrailer, Tank 5K, 7.5k	M915A3 Tractor
Palletized Loading Systems	Night Vision devices
Generator Sets, Multiple	Rough Terrain Container Crane
Rough Terrain Container Handler	Hydraulic Excavator
Semitrailer, 22.5 T, M871A3	Vibratory Roller, Types I & II
Yard Tractor, M878A2	High Mobility Multipurpose Wheeled Vehicles (HMMWV)

b) Changes Since Last NGRER: The Army transformation process redefines and compliments existing modernization plans. The USAR understands the unique requirement for maximizing all equipping sources, such as Army Procurement (P-1R), NGREA, cascading of equipment from the Active component, and depot maintenance.

The NGREA appropriation is an invaluable tool, which makes resources available to the USAR beyond the President's budget. It offers the most flexible and direct method of procuring modern CS/CSS equipment. It also enhances equipment interoperability with the Active component through modernization while increasing equipment on-hand readiness percentages.

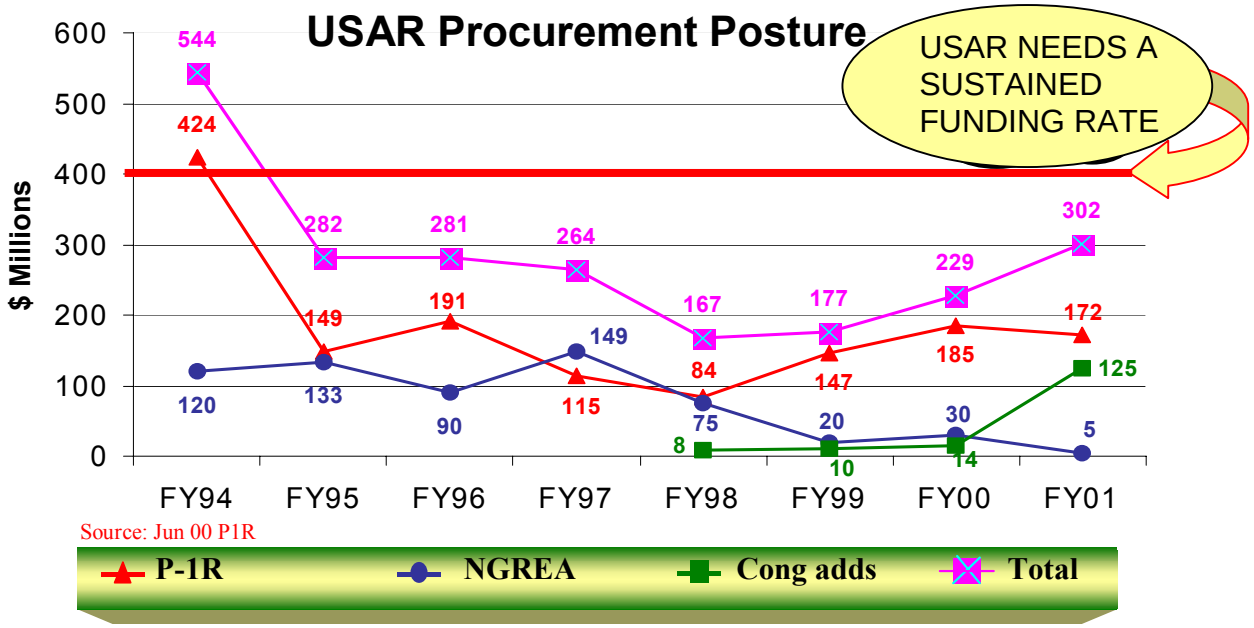
In order to adjust to decreases in NGREA, the Army must program all USAR and ARNG requirements in the FYDP. The USAR can no longer afford to rely on Congressional adds in the NGREA. Adjusting to this loss of funding will take time since the largest budget changes are better programmed in the out years, while the near term budget is more suited to smaller budget fixes.

The CSA's vision and Army CS/CSS Transformation have dominated the equipping arena since the last NGRER. Efforts within the USAR continue to affect vital logistics enablers required to support transformation. For example, the purchase of 41 ATLAS forklifts procured by NGREA is necessary to activate modular ammunition structure. The USAR provides 72 percent of this capability in support of the joint war fight.

Another example is use of NGREA funding to acquire 32 RTCH. The USAR's purchase of this equipment in FY 2000 strengthened the Army's position during critical contract negotiations, reduced contract costs, saved a break in production in FY 2002, and accelerated fielding of this new CSS enabler to the USAR. These systems are critical to high priority Quartermaster, Transportation and Ordnance units that support Army force projection.

From an equipment perspective, the greatest risk facing the USAR in support of the NMS is the potential deferment of key CS and CSS procurement programs identified in the P-1R over the FYDP. Consequently, the Army procurement plan identified for USAR fielding in the P-1R must be monitored closely to ensure proper execution. Since there are no formal procedures within the Department of the Army to compare projections with what is actually fielded.

The chart below reflects changes in the equipping sources from FY 1994 to FY 2001.



c) Future Years Program (FY 2002 – FY 2004)

(1) FY 2004 Equipment Requirements: Previously identified modernization shortfalls continue through FY 2004.

(2) Anticipated New Equipment Procurements: *Table 3* reflects the service-planned procurements from P-1R data.

(3) Anticipated Transfers from AC to RC: *Table 6* reflects data regarding transfers from the AC to the Army Reserve. A major USAR concern that is being addressed by DA is the condition of equipment that is cascaded to the RC. The USAR continues to make progress in rebuilding equipment prior to issuing it to units.

(4) Anticipated withdrawals from RC Inventory: *Table 5* reflects USAR projected equipment transfer and withdrawal quantities.

(5) Equipment Shortages and Modernization Shortfalls at the end of FY 2004: Shortages of common systems such as HMMWVs, C4I items and FMTV are detractors to both readiness and training. Compatibility of equipment is, and will continue to be, a problem for communications and logistic support systems.

In order to ensure maximum compatibility of high priority units, equipping is based on a force packaging match using the "first to fight" principle. This works well for USAR units planned for early deployment, but creates a problem with later deploying units which have older substitute equipment. In the current environment, USAR units that deploy late for a crisis often are early deployers for peacetime missions. Therefore, in order to mobilize these late deploying units, for other than war operations, requires last minute redistribution of equipment to bring the deploying unit to an acceptable level of readiness.

(6) Other comments: The Department of the Army defines recapitalization as the maintenance and systemic upgrade of currently fielded systems to ensure operational effectiveness and a zero time/zero mile system using research, development, test and evaluation, procurement; or operation and maintenance funds. The objectives of the Recapitalization Program include: extending maintainability, safety, and efficiency; and enhancing capability. Recapitalization may include pre-planned product improvements, ESPs and major modifications. These programs alone are not recapitalization unless they restore the system to a zero time/zero mile condition.

The USAR Depot Maintenance program is a repair and return to unit program. However, the present Army Recapitalization program under development is very different, in so much as it does not return equipment to the losing unit. Equipment is to be reissued in unit sets by DAMPL sequence to all Army units. Consequently, as the RC turns in their older equipment for recapitalization, other equipment will need to be cascaded to the RC to replace the equipment being recapitalized. Consequently, it is crucial that the RC receive equipment that is mission capable and compatible with their AC counterparts.

d) Remaining Shortfalls and Unfunded Requirements

(1) The Army Reserve Procurement Report projects the USAR will receive limited quantities of modern equipment during FY 2004 and FY 2005. Although the distribution is limited, certain systems are crucial to Army Reserve modernization. Projected deliveries of HEMTT chassis tactical fire trucks, FMTV and 53K Rough Terrain Container Handlers will replace aging equipment in high priority, high demand Army Reserve units. Critical logistics enablers such as electric forklifts, CSS automation systems, Modular Causeway Systems, PLS, POL and water distribution systems, and communications equipment remain under funded for the Army Reserve.

(2) As the Army transitions based on the CSA's vision, there will undoubtedly be changes to current FYDP projections. Future readiness is directly linked to modernization and upgrading of equipment. Increased mission requirements have forced the Army to accept risk in modernization. Because of funding constraints, procurement programs have been maintained at minimum sustaining rates, rather than more efficient economic rates. As the FYDP is modified, it is vital that the integration of the AC and RCs into a "seamless" force continues with appropriate modernization to ensure interoperability and compatibility.

e) Summary: The Army is programming funds for USAR equipment in its primary procurement account (P-1R) rather than relying on Congressional adds in the NGREA. The Army spends less than 10 percent of procurement dollars on CSS equipment. This shortfall in CSS procurement results in significant equipment shortages that greatly impact the USAR's and Army's ability to project and sustain forces in support of the war fighting CINCs.

The Army Transformation Plan increases Army strategic responsiveness across the full spectrum of operations and seeks to reduce the logistics footprint. The Army cannot achieve these goals unless the CS and CSS forces resident in the Army are modernized and recapitalized on a synchronized and complementary timeline. Significant reductions in the logistics footprint will not be attained until the key CS and CSS enablers are procured to support the plan. As the Army's premier provider of support forces, it is imperative that the USAR receives adequate steady-state funding in the Army's procurement accounts to support modernization and recapitalization.

Finally, to supporting Army transformation, the USAR will be required to maintain a substantial legacy force for at least the next 25 years. Much of the legacy force will transition directly to the objective force. An aggressive combination of recapitalization, strategic storage and innovative depot maintenance programs are absolutely essential to improve and sustain this vital portion of the force.

USAR

Table 1

Consolidated Major Item Inventory and Requirements

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
AIRPLANE,CARGO,C-12R	A30062	3,068,422	20	20	20	20	30
ANESTHESIA APPARATUS,GAS	A62773	30,000	123	123	128	128	158
BATH UNIT,PORTABLE,8-SHOWER	B43663	8,186	35	35	35	35	134
BED,CARGO,DEMOUNTABLE FLATRACK (PLS)	B83002	16,633	2,011	2,011	2,011	2,011	1,880
CHEMICAL AGENT MONITOR	C05701	7,500	1,267	1,267	1,267	1,267	4,152
COMBAT AUTOMATED SERVICE SUPPORT-MEDICAL	C18514	204,925	0	0	0	0	10
BRIDGE ERECTION SET,MEDIUM GIRDER	C22126	488,354	6	6	6	6	11
BRIDGE FIXED,HIGHWAY,100 FEET	C22811	964,515	9	9	9	9	21
CLEANER,STEAM,PRESSURE,TRAILER MTD	C32887	18,528	152	152	152	152	702
CRANE, WHEEL MOUNTED (ATEC)	C36586	205,270	93	93	93	93	130
CRANE,WHEEL MOUNTED,ROUGH TERRAIN	C39398	210,857	79	79	79	79	99
TELEPHONE,CENTRAL OFFICE AN/TTC-39A	C41311	2,801,000	10	12	12	12	9
COMBAT SERVICE SUPPORT CONTROL SYSTEM (CSSCS):	C56827	51,526	3	33	69	172	274
JAVELIN	C60750	481,418	0	0	0	0	119
SIMPLE COLLECTION PROTECTION EQUIPMENT M	C79000	8,350	14	14	14	14	632
CONTAINER, ASSEMBLY REFRIGERATION 9K BTU	C84541	58,326	65	65	65	65	95
DETECTOR SET,RADAR AN/APR-39A	D03159	39,984	27	27	27	27	80
DISTRIBUTOR,WATER TANK,6000 GAL,TRLR MTD	D28318	30,289	76	76	76	76	112
DIGITAL DATA GENERATOR SG-1139/G	D37041	5,100	47	48	48	48	75
DRUM,FABRIC,COLLAPSIBLE,WATER,500 GAL	D69050	2,088	449	449	449	449	642
DATA TRANSFER DEVICE: AN/CYZ-10	D78555	1,898	5,213	5,309	5,326	5,397	15,213
DECONTAMINATING APPARATUS,LIGHT WEIGHT M	D82404	15,192	625	626	626	626	1,226
DEFIBRILLATOR MONITOR	D86072	8,022	196	202	208	208	231
COMMUNICATIONS TECH AN/TSQ-84 LP	E60197	100,000	1	1	1	1	2
CRANE,WHEEL MOUNTED,20T	F39378	162,393	20	20	20	20	47
CRANE-SHOVEL,CRAWLER MOUNTED	F40474	270,000	7	7	7	7	14
FORWARD AREA WATER POINT SUPPLY SYSTEM	F42612	19,484	72	76	76	76	108
CRUSHING SCREENING AND WASHING PLANT (CSWP)	F49673	2,000,000	5	5	5	5	12
FLOODLIGHT SET TRAILER MOUNTED	F79334	4,489	45	45	45	45	1,507
DELOUSING OUTFIT,PWR DRIVEN,10 GUN	F89168	1,349	15	15	15	15	105
GENERATOR,5KW,60HZ,SKID MTD (TQG)	G11966	8,145	450	455	467	467	1,780
GENERATOR,60KW,50/60HZ,SKID MTD (TQG)	G12034	20,903	51	51	51	51	161
GENERATOR,15KW,50/60HZ,SKID MTD (TQG)	G12170	16,160	71	71	71	71	64
GENERATOR PWR UNIT,30KW,60HZ,TRLR MTD (T	G35851	21,000	34	34	37	37	116
GENERATOR PWR UNIT,10KW,60HZ,TRLR MTD (T	G42170	13,000	98	98	98	98	218
GENERATOR PWR UNIT,15KW,60HZ,TRLR MTD (T	G53778	21,000	80	80	80	80	531
GENERATOR, SMOKE M56 (COYOTE)	G58151	243,075	0	0	0	0	600
GENERATOR,30KW,50/60HZ,SKID MTD (TQG)	G74575	19,499	45	45	45	45	68
GENERATOR,10KW,60HZ,SKID MTD (TQG)	G74711	6,979	194	194	196	196	1,068
GENERATOR PWR UNIT,60KW,60HZ,SKID MTD (T	G78306	24,000	19	19	19	19	73
M58 MECH TURBINE SMK SYS	G87229	410,000	0	0	0	0	42
ELECTRONIC SHOP AN/ASM-189LP	H01855	169,817	61	61	61	61	74
ELECTRONIC SHOP,AVIONICS AN/ASM-146	H01907	87,418	86	86	86	86	118
HELICOPTER,ATTACK AH-64 (APACHE)	H28647	10,680,000	45	45	45	45	48
HELICOPTER,CARGO CH-47D (CHINOOK)	H30517	24,800,000	54	54	54	54	64
BLACK HAWK HELICOPTER	H32361	11,188,480	0	0	0	0	24
RADIO SET,HF AN/GRC-193A	H35404	37,000	66	67	67	67	884
FILTER SEPARATOR,LIQUID,350 GPM	H52087	4,041	1,262	1,268	1,268	1,268	1,368
TACTICAL FIRE FIGHTING TRUCK (TFFT)	H56391	552,238	0	0	0	0	67
WOLVERINE	H82510	6,400,000	0	0	0	0	60
FORWARD AREA REFUELING EQUIPMENT	H94824	9,093	114	144	114	114	150
FUEL SYSTEM SUPPLY POINT,60K GAL	J04717	22,435	151	151	151	151	365

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NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
GENERATOR SET,DIESEL ENGINE,200KW	J40150	19,204	0	0	0	0	4
SECTIONALIZED GRADER	J74920	264,000	0	0	0	0	18
HYPOCHLORINATION UNIT	K60988	14,342	55	55	55	55	119
INTERIOR BAY BRIDGE,FLOATING	K97376	41,940	148	148	148	148	153
IMPROVED RIBBON BRIDGE (IRB)	K97376	4,150,000	0	0	0	0	6
LABORATORY,PETROLEUM,SEMITRAILER MTD	L33800	650,000	12	12	12	12	17
LANDING CRAFT,UTILITY,RO/RO (LCU 2000)	L36989	5,000,000	14	14	14	14	20
LAUNDRY UNIT,TRAILER MOUNTED	L48315	42,516	167	167	167	167	227
LIGHTWEIGHT DIGITAL FACSIMILE AN/UXC-7	L67964	21,972	758	758	760	760	1,781
LOADER,SCOOP,5CY	L76321	75,450	43	43	43	43	47
MEDICAL MATERIEL SET,CENT MATERIEL (DEPM	M08417	266,781	48	49	50	50	116
MEDICAL MATERIEL SET,INT CARE (DEPMEDS)	M08599	55,544	79	81	86	86	300
MACHINE GUN,5.56MM M249 (SAW)	M09009	2,653	11,263	11,263	11,263	11,263	12,327
MEDICAL MATERIEL SET,POST-OP/ICU (DEPMED	M09576	152,519	64	65	69	69	233
MOUNTING KIT,SMOKE GENERATOR M284	M17931	2,246	377	377	377	377	432
MASK,PROTECTIVE,COMBAT VEHICLE M42	M18526	135	2,017	2,017	2,017	2,017	2,017
MEDICAL EQUIPMENT SET SICK CALL FIELD (2	M30156	7,418	20	20	20	20	69
MEDICAL EQUIPMENT SET TRAUMA FIELD (2)	M30499	13,383	39	39	39	39	69
MEDICAL MATERIEL SET,X-RAY (DEPMEDS)	M72300	240,205	32	32	32	32	37
MEDICAL MATERIEL SET,OP ROOM (DEPMEDS)	M72936	263,406	48	49	50	50	54
MINI EYESAFE LASER INFRARED OBS SET AN/P	M74849	8,549	485	544	544	544	918
MEDICAL MATERIEL SET,X-RAY (DEPMEDS)	M86675	135,000	3	3	4	4	33
LAUNCHER,GRENADE,40MM,MARK 19-3	M92362	15,320	1,580	1,581	1,581	1,581	2,243
M240B MACHINE GUN	M92841	6,000	0	0	119	119	133
HYDRAULIC EXCAVATOR (HYEX) TYPE I, II, III	MULTI	298,171	33	33	33	33	80
NIGHT SIGHT EQUIP THERIMG	N04982	61,791	20	20	20	20	27
NIGHT VISION SIGHT AN/UAS-11(V)1	N05050	69,641	0	0	0	0	7
NIGHT VISION GOGGLES AN/PVS-7B	N05482	3,578	15,537	15,537	15,537	15,537	35,526
GLOBAL POSITIONING SYSTEM (GPS)	N95862	1,331	4,861	4,861	4,861	4,861	5,176
OPERATING AND TREATMENT OUTFIT,DENTAL	P19377	6,705	0	0	0	0	135
GENERATOR PWR PLANT,5KW,60HZ,TRLR MTD	P28083	11,000	16	16	16	16	33
POWER SUPPLY PP-6224/U	P40750	1,491	1,409	1,409	1,409	1,409	2,043
GENERATOR PWR PLANT,30KW,60HZ,TRLR MTD	P42126	46,000	29	29	29	29	37
GENERATOR PWR PLANT,60KW,60HZ,TRLR MTD	P42194	35,000	5	5	5	5	9
GENERATOR PWR PLANT,10KW,60HZ,TRLR MTD	P42262	30,000	98	98	98	98	124
PRINTING PLANT,SPECIAL WARFARE	P61665	283,221	11	11	11	11	13
PUMP CENTRIFUGAL,125 GPM	P92030	2,267	630	630	630	630	1,218
PUMP ASSEMBLY,ENG DRVN,FLAM LIQ,350 GPM	P97119	26,244	65	65	65	65	181
PUMPING ASSEMBLY,TACTICAL WATER	P97369	27,426	106	106	106	106	224
PROCESSING MACHINE,RAD FILM	P98514	10,795	35	35	37	37	70
RADIO TELETYPE SET N/GRC-122	Q90100	52,347	5	5	5	5	7
RAMP BAY BRIDGE,FLOATING	R10527	47,040	57	57	57	57	62
RADIO SET AN/GRC-213	R30895	20,000	25	26	26	26	174
RADIAC SET AN/PDR-75	R30925	2,978	643	647	661	661	1,266
RADIAC SET: AN/UDR-13	R31061	631	13	13	13	2,713	7,690
RADIO SET AN/VRC-89A (SINCGARS)	R44863	22,822	981	981	981	981	1,775
RADIO SET AN/VRC-92A (SINCGARS)	R45407	21,238	372	372	372	372	626
RADIO SET AN/PRC-104A	R55200	12,500	6	6	6	6	425
RADIO SET AN/PRC-119 (SINCGARS)	R55268	6,418	0	0	0	0	2
REFRIGERATOR UNIT,10000 BTU	R61428	9,156	126	126	126	126	150
RADIO SET AN/VRC-87A (SINCGARS)	R67160	12,109	443	443	443	443	524
RADIO SET AN/VRC-88A (SINCGARS)	R67194	12,519	2,287	2,287	2,287	2,287	2,627

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NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
RADIO SET AN/VRC-90A (SINCGARS)	R67908	13,178	4,905	4,905	4,905	4,905	7,429
RADIO SET AN/VRC-91A (SINCGARS)	R68010	23,249	1,134	1,134	1,134	1,134	1,335
RADIO SET AN/VRC-119A (SINCGARS)	R83005	10,117	1,643	1,643	1,643	1,643	1,857
RADIO TERMINAL SET,HEAVY TROPO AN/TRC-17	R92967	2,000,000	8	8	8	8	16
RADIO TERMINAL,AN/TRC-170V3,LT TROPO SYS	R93035	1,000,000	16	16	16	16	16
RIFLE,5.56 MM M16A2	R95035	449	97,412	97,412	97,412	97,412	117,012
M16A4	R97175	587	0	396	396	396	1,488
M4 CARBINE	R97234	587	34	34	34	2,134	5,719
SHELTER, TACTICAL, EXPANDABLE	S01359	99,000	129	129	129	129	135
SPECTRUM ANALYZER AN/USM-489(V)1	S01416	15,930	12	12	12	12	28
SEMITRAILER,TANK,5000 GAL M967	S10059	77,550	966	966	966	966	1,080
ROLLER,TOWED,VIBRATING,5TON	S10682	17,086	8	8	8	8	48
ROLLER,VIBRATORY,SELF PROPELLED,HIGH IMP	S12916	45,183	62	62	62	62	134
SECTIONALIZED SCRAPER	S29971	303,000	0	0	0	0	18
SANITATION CENTER,FOOD	S33399	12,735	69	69	69	69	626
SEMITRAILER,22-1/2 TON M871	S70027	24,483	1,118	1,118	1,118	1,118	1,586
SEMITRAILER,FB,TRANSPORTR,34T	S70159	20,004	3,028	3,028	3,028	3,028	3,047
SEMITRAILER,TANK,PETRO	S73119	30,165	545	545	545	545	600
SEMITRAILER,TANK,5000G M969	S73372	97,413	473	473	473	473	619
SEMITRAILER,VAN,RPR STOR,6T	S74832	32,952	79	79	79	79	136
TESTING KIT PETROLEUM MODERNIZATION SYST	T05741	4,565	130	138	138	138	246
TRUCK,UTILITY,HEAVY VARIANT (HMMWV)	T07679	58,374	200	200	200	200	745
TACTICAL WATER DISTRIBUTION EQUIPMENT SE	T09094	660,000	18	18	18	18	37
TANK ASSY,FABRIC,COLLAPSIBLE,20K GAL,POL	T12620	6,065	280	280	280	280	660
TANK ASSY,FABRIC,COLLAPSIBLE,WATER,3K GA	T19033	2,377	1,638	1,638	1,638	1,638	2,046
SHOP EQUIPMENT,AUTOMOTIVE MAINT	T24660	103,658	46	46	46	46	50
SHOP EQUIPMENT,AUTOMOTIVE MAINT	T25756	115,964	11	111	11	11	22
TOOL OUTFIT,HYDRAULIC SYSTEMS	T30377	83,000	51	51	51	51	102
SMALL EMPLACEMENT EXCAV W/FRONT LOAD	T34437	69,643	355	367	374	374	406
TRUCK,M985,CARGO,W/MED CR (HEMTT)	T39586	194,853	65	65	65	65	93
TRANSPORTER,PALLETIZED LOAD SYSTEM (PLS)	T40999	243,746	684	684	684	684	837
TRUCK, CARGO, 2.5 TON 4X4 (LMTV)	T41995	101,742	0	0	0	0	2
TRUCK, CARGO, 2.5 TON 4X4 (LMTV)	T42063	119,166	0	0	0	0	2
DIGITAL N/SECURE VOICE TELEPHONE TA-1035	T45408	2,459	2,619	2,619	2,619	2,619	3,381
TENT,MODULAR,MEDICAL,64X20	T47745	19,199	154	154	154	154	583
TENT, TEMPER (SURGICAL)	T47813	27,000	83	83	83	83	101
ROUGH TERRAIN CARGO HANDLER,50K LB (RTCH	T48941	159,138	97	97	97	97	205
TRUCK,FORK LIFT,DD,4K LB,RT	T49255	47,692	667	667	667	667	685
MOBILE SUBSCRIBER AN/VRC-97 (MSRT)	T55957	110,000	646	646	651	651	820
TERMINAL TACTICAL PETROLEUM MODERNIZATION	T56041	1,400,873	0	0	0	0	15
TRUCK,TRACTOR,HEAVY EQUIP TRANS SYS (HET	T59048	256,704	441	441	441	441	456
TRUCK, CARGO, 2.5 TON 4X4 (LMTV)	T60081	104,626	169	169	169	169	211
TRUCK, CARGO, 2.5 TON 4X4 (LMTV)	T60149	115,639	37	37	37	37	47
TRUCK,YARD TRACTOR,5T	T60353	51,500	33	33	33	33	125
TRUCK,TRACTOR,6X4 M915A2	T61103	78,589	1,865	1,865	1,865	1,865	2,157
TRUCK,TRACTOR,MED EQUIP TRANSPORTER,20T	T61171	74,288	347	347	347	347	598
TRUCK, TRACTOR, 5 TON, 6X6 W/E (MTV)	T61239	142,132	6	6	6	6	11
TRUCK,UTILITY,1-1/4 TON,M998,WE (HMMWV)	T61494	36,076	8,258	8,295	8,305	8,305	12,873
TRUCK,UTILITY,1-1/4 TON,M998,WW (HMMWV)	T61562	36,672	307	316	322	322	463
TRUCK, CARGO, 5 TON, 6X6 LWB (MTV)	T61704	118,791	0	0	257	257	0
TRUCK, CARGO, 5 TON, 6X6 W/E (MTV)	T61908	128,076	0	0	63	0	32
TRUCK,WRECKER,M948E1,8X8 (HEMTT)	T63093	276,866	329	329	336	336	399

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Consolidated Major Item Inventory and Requirements

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
TRUCK, DUMP, 5 TON, 6X6 W/E (MTV)	T64911	141,557	21	21	21	21	44
TUG,LARGE,COASTAL,128 FEET (LT 128)	T68330	20,000,000	4	4	4	4	4
TRUCK,LIFT,FORK,10K,VARIABLE REACH (ATLAS)	T73347	100,199	88	99	99	99	536
TRUCK,TANKER,FUEL,2500G (HEMTT)	T87243	237,210	133	133	133	133	308
TEST SET,RADIO AN/GRM-114	T87468	11,822	140	140	140	140	180
TRK, TRANSPORTER: COMMON BRIDGE 8X8 (CBT)	T91308	100,000	257	257	257	257	280
TRUCK,TRACTOR,LET M916A1	T91656	138,870	567	567	567	567	204
TRUCK, VAN, 2.5 TON, 4X4 W/E (LMTV)	T93484	162,060	0	0	23	23	0
TRAILER,PALLETIZED LOAD SYSTEM (PLS)	T93761	41,910	725	725	725	725	1,074
TRUCK, WRECKER, 5 TON, 6X6 W/E (MTV)	T94709	268,992	0	0	29	29	18
SPREADER,LIFT,FRT,CONT	U12203	4,880	113	113	113	113	154
LOGISTICS SUPPORT VESSEL (LSV)	V00426	30,164,000	1	1	1	1	1
TANK ASSEMBLY,FABRIC,10K GAL,POL	V12552	6,990	997	982	982	982	1,530
TANK,LIQUID DISPENSING,TRAILER MOUNTED	V19950	1,825	486	486	486	486	670
WATER STORAGE/DISTRIBUTION SET	W37311	200,508	10	10	10	10	22
REVERSE OSMOSIS WATER PURIF UNIT,3OOO GP	W47225	748,000	124	124	124	124	147
WELDER SHOP,TRAILOR MOUNTED	W48391	43,250	67	73	73	73	228
TRACTOR,FULL TRACKED,LOW SPEED	W76816	172,896	297	297	297	297	300
TRAILER,BOLSTER GROUP,4T M796	W94536	9,618	427	477	477	477	510
TRUCK,FORK LIFT,ELECTRIC,4K LB,144 IN	X50436	28,098	13	13	13	13	30
VIEWER,INFRARED AN/PAS-7	Y03104	16,779	9	9	9	9	49
WELDING SHOP, TRAILER MOUNTED	Y48255	75,000	61	61	61	61	229
ARMORED SECURITY VEHICLE (ASV)	Z06421	558,000	0	0	0	0	255
HEAVY DRY SUPPORT BRIDGE	Z11534	5,000,000	0	0	0	0	20
MODULAR CAUSEWAY SYSTEM	Z14597	1,500,000	0	0	0	0	9
MODERN BURNER UNIT	Z21129	2,700	1,365	1,365	1,365	1,365	5,115
SUPER HIGH FREQUENCY TRI-BAND ADV RANGE EXT TERMINAL AN/T	Z21706	1,850,000	0	0	6	6	16
CENTRAL OFFICE COMMUNICATIONS AUTOMATIC: AN/TTC-56	Z22178	2,000,000	0	2	5	5	11
GRIZZLY	Z23978	5,800,000	0	0	0	0	60
DIGITAL APPLIQUE-AN/UKY-128	Z26542	35,000	0	200	1,122	1,997	2,067
AN/UXC-10, LIGHWEIGHT DIGITAL FACSIMILE	Z26923	15,000	0	0	100	100	515
SUPER HIGH FREQUENCY TRIBAND ADVANCED RANGE	Z34359	1,850,000	0	0	0	0	33
INTEGRATED SYSTEM CONTROL [ISYSCON (V)1]	Z35552	1,261,530	0	0	0	0	3
INTEGRATED SYSTEM CONTROL [ISYSCON (V)2]	Z35620	1,141,010	0	0	0	0	4
HYDRAULIC EXCAVATOR (HYEX), TYPE II	Z39507	435,755	4	4	4	4	12
HYDRAULIC EXCAVATOR (HYEX), TYPE I	Z39575	164,350	26	26	26	26	58
ROUGH TERRAIN CARGO HANDLER, (RTCH) 53K	Z40997	525,000	0	0	0	0	281
REPEATER SET RADIO: AN/TRC-174B (HMDA)	Z54228	331,000	0	11	22	33	33
RADIO TERMINAL SET: AN/TRC-173B (HMDA)	Z57406	346,000	0	12	24	36	36
HYDRAULIC EXCAVATOR (HYEX), TYPE III	Z59362	259,667	4	4	4	4	12
HERCULES	Z62381	2,000,000	0	0	0	0	36
REPEATER SET RADIO: AN/TRC-138C (HMDA)	Z63463	349,000	0	14	18	32	32
RADIO TERMINAL SET: AN/TRC-175B (HMDA)	Z75641	354,000	0	5	6	11	11
Super HIGH FREQUENCY TRI-BAND ADV RANGE EXT TERMINAL AN/T	Z76575	1,850,000	0	0	7	7	17
LAUNDRY ADVANCED SYSTEM: (LADS)	Z90400	409,000	0	30	50	67	98

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Average Age of Equipment

Table 2

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for FY 2002.

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
CRANE, WHEEL MOUNTED, 7 1/2 T	C36151	11	
CRANE, WHEEL MOUNTED, HYDRAULIC 25T (ATEC)	C36586	1	
CRANE, WHEEL MOUNTED, ROUGH TERRAIN	C39398	11	
DISTRIBUTOR, WATER TANK, 6000 GAL, TRLR MTD	D28318	16	
CRANE-SHOVEL, CRAWLER MOUNTED	F40474	41	
CRANE TRK MOUNTED: HYD 25T CAT (CCE)	F43429	24	
FLOODLIGHT SET TRAILER MOUNTED	F79334	20	
GENERATOR PWR, 15KW,60HZ,TRLR MTD	G53778	5	
GENERATOR, SMOKE, MECH PULSE	J30492	29	
GENERATOR SET,DIESEL ENGINE,30KW	J36383	17	
INST REP SHOP M185A3	K90188	33	
LAUNDRY UNIT, TRAILER MOUNTED	L48315	31	
LOADER, SCOOP,5CY	L76321	23	
LOADER, SCOOP,4.5CY	L76556	16	
MIXING PLANT ASPHALT	M57048	5	
RAMP LOADING VEHICLE, 16K LB	R11154	14	
RECOVERY VEHICLE, MDM M88A1	R50681	28	
SEMITRAILER, TANK, 5K GAL M967	S10059	14	
ROLLER, TOWED, VIBRATING, 5T	S10682	15	
ROLLER PNEUMATIC, VAR PRESSURE	S11793	23	
ROLLER, VIBRATORY, SP, HIGH IMPACT	S12916	21	
SCRAPER, EARTH MOVING	S56246	15	
SEMITRAILER, 22 1/2T M871	S70027	13	
STLR LB HVY EQUIP 60T	S70661	25	
SEMITRAILER, FUEL SVC, 5K GAL	S72983	33	
SEMITRAILER TANK PETRO	S73119	9	
SEMITRAILER, VAN, CGO M128A2C	S74079	34	
SEMITRAILER, VAN, RPR STOR,6T	S74832	30	
SEMITRAILER, VAN SUP M129A2C	S75175	32	
TRK UTIL TACT 3/4T W/E	T05028	15	
TRK UTIL TOW CARR ARMD	T05096	14	
TRK UTIL SHLTR CARR WE	T07543	11	
TRUCK UTILITY HMMWV	T07679	7	
TRK AMB 2 LITTER ARMD	T38707	12	
TRK AMB 4 LITTER ARMD	T38844	12	
TRK CGO TACT W/W-LT CR	T39518	14	
TRK CGO TACT W/MED CRN	T39586	10	
TRK CGO HVY XPORTER	T40999	5	
TRK CGO HVY W/MHE W/E	T41067	6	
TRAILER, FLATBED,11T,4 WH (HEMAT)	T45465	7	
ROUGH TERRAIN CARGO HANDLER (RTCH) 50K LB	T48941	17	
TRUCK, FORK LIFT, 6K LB,RT,VAR REACH	T48944	9	
TRUCK, FORK LIFT, 6K LB	T49096	11	
TRUCK, FORK LIFT,DSL DRVN,10K LB,48 IN	T49119	18	
TRUCK, FORK LIFT,DSL DRVN,4K LB,RT	T49225	18	
TRK TANK FUEL 2500G WW	T58161	11	
TRUCK TRACTOR (HET)	T59048	7	
TRK CGO TACT W/LT CRANE HEMTT M977	T59278	14	

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Average Age of Equipment

Table 2

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
TRK CGO TACT 1 1/4T CUCV	T59346	18	
TRK CGO 1 1/4T M1028 CUCV	T59414	15	
TRK CGO 1 1/4T M1008 CUCV	T59482	14	
TRK TRAC 5T YARD 4X2	T60353	18	
TRK TCTR HET M911	T61035	22	
TRK TRAC 6X4 M915	T61103	18	
TRK TRAC MET 8X6 75000	T61171	20	
TRK UTIL 1 1/4 4X4 WE M998 CGO/TROOP CARRIER	T61494	10	
TRK UTIL 1 1/4 4X4 WW M1038 CGO/TRP CARRIER	T61562	11	
TRK WKR TACT 8X8 HVY EXP MOB TACT TRUCK	T63093	11	
TRK TANK FUEL 2500G	T87243	11	
TRK TRAC 66000 M916	T91656	17	
TRK UTIL 1 1/4T M1025 HMMWV ARMAMENT CARR	T92242	10	
TRK UTIL 1 1/4T M1026 HMMWV ARMNT CARR W/W	T92310	11	
TRUCK VAN LMTV W/E	T93484	2	
TRLR PALLET LOAD 8X20	T93761	6	
TRUCK WRECKER MTV W/E	T94709	2	
TRK BOLSTER 5T 6X6 WWN	X39187	29	
TRK CGO 2 1/2T 6X6 W/E	X40009	31	
TRK CGO 2-1/2T M35A2C	X40077	28	
TRK CGO 2 1/2T 6X6 WWN	X40146	31	
TRK CGO M35A2C WW	X40214	27	
TRK CGO 2-1/2T M36A2	X40283	29	
TRK CGO M36A2 WW	X40420	34	
TRK CGO DROP SIDE 5T	X40794	16	
TRK CGO 5T 6X6 LWB W/E	X40831	36	
TRK CGO DROP SIDE WWN	X40931	17	
TRK CGO 5T 6X6 LWB WWN	X40968	32	
TRK CGO 5T 6X6 XLWB WE	X41105	20	
TRK CGO 5T 6X6 XLWB WN	X41242	24	
TRK DUMP 5T 6X6 W/E	X43708	29	
TRK DUMP 5T 6X6 WWN WE	X43845	32	
TRK DUMP 20T DD 12 CY	X44403	23	
TRK TANK FUEL M49A2C	X57271	33	
TRK WATER 1000G M50A3	X58367	32	
TRUCK TRACTOR 2-1/2 T	X59052	32	
TRK TRAC 5T 6X6 W/E	X59326	25	
TRK TRAC 5T 6X6 WWN WE	X59463	30	
TRK TRAC WKR 5T WWN WE	X60696	33	
TRK UTIL 1/4T 4X4 W/E	X60833	30	
TRK VAN EXP 5T 6X6	X62237	21	
TRK VAN SHOP 2 1/2T WE	X62340	32	
TRK VAN SHOP M109A3 WW	X62477	32	
TRK WRECKER 5T	X63299	24	

USAR
Service Planned Procurements (P-1R Data)

NOTE: This table identifies the dollar-value of equipment programmed to be procured with Service procurment funds as identified in the P-1R exhibit of the President's budget. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; eg. items procured in FY 03 would be expected to arrive in RC inventories in FY 04 or FY 05.

NOMENCLATURE	*FY 2002*	*FY 2003*	*FY 2004*	*REMARKS*
CH-47 CARGO HELICOPTER MODS (MYP)			39,300,000	
UTILITY/CARGO AIRPLANE MODS	6,000,000	1,300,000	2,600,000	
JAVELIN (AAWS-M)	2,600,000			
ARMOR MACHINE GUN 7.62MM M240	1,500,000	1,400,000		
M16A4 RIFLE		600,000	1,900,000	
MEDIUM TACT VEHICLE FAMILY (6X6) (FMTV)	38,200,000	39,900,000	330,400,000	
TRUCK, FIREFIGHTING, TACTICAL	2,500,000	10,200,000	10,800,000	
TRUCK UTILITY HEAVY VARIANT (FHTV)		121,200,000	5,800,000	
TRUCK, TRACTOR, YARD TYPE, M878 (C/S)		2,000,000		
HVY EXPANDED MOBILE TACTICAL TRUCK ESP		45,400,000		
LINE HAUL ESP		19,300,000		
SHF TERM			2,600,000	
ACUS MOD PROGRAM	8,800,000	7,300,000	8,200,000	
COMMS-ELEC EQUIP FIELDING	100,000	*		
DIGITAL TOPOGRAPHIC SPT SYS (DTSS) (TIARA)		1,100,000		
FORCE XXI BATTLE CMD BRIGADE & BELOW (FBCB2)	600,000	10,100,000		
LOGTECH	800,000	800,000	600,000	
ISYSCON EQUIPMENT		*	3,200,000	
MANEUVER CONTROL SYSTEM (MCS)			4,800,000	
STAMIS TACTICAL COMPUTERS (STACOMP)	8,600,000	9,200,000	9,400,000	
AUTOMATED DATA PROCESSING EQUIP	2,300,000	2,900,000	2,900,000	
RESERVE COMPONENT AUTOMATION SYS (RCAS)	33,600,000	7,100,000		
SMOKE OBSCURANT FAMILY	11,500,000	13,100,000	14,200,000	
HANDHELD STANDOFF MINEFIELD DETECTION SYSTEM			300,000	
WIDE AREA MUNITIONS (REMOTE CONTROL UNIT)		300,000	300,000	
FLOODLIGHT SET, ELEC, TRL MTD, 3 LIGHTS			300,000	
LAUNDRIES, SHOWERS LATRINES	13,200,000	11,500,000		
LIGHTWEIGHT MAINTENANCE ENCLOSURE (LME)	500,000			
FIELD FEEDING AND REFRIGERATION	1,000,000			
DISTRIBUTION SYSTEMS, PETROLEUM & WATER	6,300,000		7,000,000	
ASSAULT HOSELINE SYSTEM	3,200,000			
WATER PURIFICATION SYSTEMS	8,100,000			
COMBAT SUPPORT MEDICAL	2,900,000		6,200,000	
LOADERS	10,200,000	4,400,000		
HYDRAULIC EXCAVATOR	3,500,000			
CRANES	1,800,000	2,900,000		
CRUSHING/SCREENING PLANT, 150 TPH		2,200,000		
LOGISTICS SUPPORT VESSEL (ESP)		25,900,000		
GENERATORS AND ASSOCIATED EQUIP	1,300,000			
ROUGH TERRAIN CONTAINER HANDLER (RTCH)		18,800,000	16,000,000	
ALL TERRAIN LIFTING ARMY SYSTEM	7,800,000	24,500,000		
INTEGRATED FAMILY OF TEST EQUIP (IFTE)	3,600,000			
TEST EQUIPMENT MODERNIZATION (TEMOD)	1,100,000	1,200,000	1,300,000	
TOTAL	**$181,600,000**	**384,600,000**	**468,100,000**	
* ITEMS LESS THAN $50,000				
# The above figure do not include ammunition				

National Guard and Reserve Equipment Appropriation (NGREA) Planned Procurements

NOTE: This table identifies the dollar-value of equipment programmed to be procured with National Guard and Reserve Equipment Appropriations (NGREA). These funds are available for a three year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from date of procurement before they arrive in the inventory .

NOMENCLATURE	*FY 1999*	*FY 2000*	*FY 2001*	*REMARKS*
CH-47, CARGO, HELICOPTER			500,000	
HEMTT BRIDGE TRANS KITS	2,600,000	2,700,000		
M915, TRK, LINE HAUL ESP	4,700,000			
HMMWV CONTACT MNT TRK	5,500,000			
NIGHT VISION PVS-7	5,700,000			
AVLB MLC 70 BRIDGE UPGRADE	1,500,000			
MODERN BURNER UNIT + GENERATOR		975,000		
FAMILY OF MEDIUM TACT VEH		2,850,000		
HMMWV M1097		6,120,000	4,496,500	
RT CONTAINER HANDLER 53K		16,800,000		
PLS TRAILER M1076		450,000		
TOTAL	**$20,000,000**	**$29,895,000**	**$4,996,500**	

USAR
Expected Equipment Transfer and Withdrawal

NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transfered equipment is commonly called "cascaded equipment" or equipment that is provided to the RC once the Active receives more modern equipment items. Although this table highlights a three-year period, many Services do not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.

NOMENCLATURE	*EQUIP No.*	*FY 2002 QTY*	*FY 2003 QTY*	*FY 2004 QTY*	*REMARKS*
ALARM BIOL AGENT M31	A48430		2		
ANESTHESIA APP 4 CYL	A62773			5	
MONITOR CHEMICAL AGEN	C05701	48			
CENTRAL OFFICE COMMUNI	C41311		2		
DIG D GEN SG-1139/G	D37041	2	1		
DECONTAMINATING APPARA	D82404		1		
DEFIBRILLATOR CARDIOS	D86072	3	6	6	
FORWARD AREA WATER POI	F42612		4		
GEN ST DSL MEP-802A	G11966		5	12	
GENERATOR SET DIESEL E	G35851			3	
GEN ST DSL MEP-803A	G74711			2	
HF RADIO SET: AN/GRC-1	H35404	4	1		
FILT SEP DL13217E9320	H52087		6		
LTWT DIG FAC AN/UXC-7	L67964			2	
MMS CENTRAL MATERIAL	M08417		1	1	
MMS INTER CARE WARD	M08599		2	5	
MMS POST-OP/ICU DEP	M09576		1	4	
MMS OPERATING ROOM	M72936		1	1	
MELIOS LASER AN/PVS-6	M74849	485	59		
MMS X-RAY MOB DEP	M86675			1	
MG GRENAD MK19 MODIII	M92362	98	1		
POWER PLANT: ELECTRIC	P42194	1			
PROCESS MACH 7GL TANK	P98514			2	
RADIO SET: AN/GRC-213	R30895		1		
RADIAC SET AN/PDR-75	R30925		4	14	
STLR FB 34T M872	S70159	20			
STLR TNK 7500 G M1062	S73119	55			
STLR TNK FUEL M969	S73372	1			
TEST KIT PETROLEUM AV	T05741	17	8		
TRCTR WHLD EXCAV	T34437	4	12	7	
MOBILE SUBS AN/VRC-97	T55957			5	
TRK UTIL 1-1/4T M998	T61494		37	10	
TRK UTIL 1-1/4T M1038	T61562		9	6	
TRK WRK M984 W/W	T63093			7	
TRK LFT FK VAR RCH RT	T73347		11		
TANK ASY PTR 10000GAL	V12552		5		
WELDING SHOP TRAILER M	W48391	6	6		
TLR BOL G/P 4T M796	W94536	1	50		

USAR
Planned vs Actual Prior Year Procurements and Transfers

NOTE: This table compares what the Services planned to procure and transfer to the Reserve component in FY98 with actual procurements and transfers. Since the procurement cycle is normally one to two years from funding to delivery this table identifies only what has been delivered in FY 1998.

NOMENCLATURE	EQUIP	FY 98 Transfers		FY 98 PI-R Procurement		FY 98 NGREA	
	No.	Planned	Actual	Planned	Actual	Planned	Actual
AIRPLANE,CARGO,C-12R	A30062	6		2			
ANESTHESIA APPARATUS,GAS	A62773	28					
AVLB MLC 70 BRIDGE UPGRADE	B31098					12	
BATH UNIT,PORTABLE,8-SHOWER	B43663	3					
BED,CARGO,DEMOUNTABLE FLATRACK (PLS)	B83002			192	192		
CRANE,WHEEL MOUNTED,ROUGH TERRAIN	C39398	19					
SIMPLE COLLECTION PROTECTION EQUIPMENT M-20	C79000	17					
DETECTOR SET,RADAR AN/APR-39A	D03159	73					
TACTICAL TRAILER DOLLY SET	D34883			14	14		
DRUM,FABRIC,COLLAPSIBLE,WATER,500 GAL	D69050	84					
DEFIBRILLATOR MONITOR	D86072	127					
ELECTRONIC KEY GEN DEVICE TSEC/KG-81	E03123	36					
FORWARD AREA WATER POINT SUPPLY SYSTEM	F42612	28					
CRANE,TRK MTD HYD,25T	F43429	1			6		
GENERATOR,5KW,60HZ,SKID MTD (TQG)	G11966	24					
GENERATOR,60KW,50/60HZ,SKID MTD (TQG)	G12034	17		12			
GENERATOR PWR UNIT,30KW,60HZ,TRLR MTD (TQG)	G35851	10					
GENERATOR PWR UNIT,10KW,60HZ,TRLR MTD (TQG)	G42170	1					
GENERATOR PWR UNIT,15KW,60HZ,TRLR MTD (TQG)	G53778	34					
GENERATOR, SMOKE M56 (COYOTE)	G58151			48			
GENERATOR,30KW,50/60HZ,SKID MTD (TQG)	G74575	26					
GENERATOR,10KW,60HZ,SKID MTD (TQG)	G74711	58		4			
FILTER SEPARATOR,LIQUID,350 GPM	H52087	36					
GENERATOR SET,DIESEL ENGINE,10KW	J35825	43					
HYPOCHLORINATION UNIT	K60988	7					
LAUNDRY UNIT,TRAILER MOUNTED	L48315	4					
HYDRAULIC EXCAVATOR (HYEX) TYPE I, II, III	MULTI			3	3		
MEDICAL MATERIEL SET,CENT MATERIEL (DEPMEDS)	M08417	6					
MEDICAL MATERIEL SET,INT CARE (DEPMEDS)	M08599	8					
MEDICAL MATERIEL SET,POST-OP/ICU (DEPMEDS)	M09576	11					
MEDICAL EQUIPMENT SET SICK CALL FIELD (2)	M30156	10					
MEDICAL EQUIPMENT SET TRAUMA FIELD (2)	M30499	10					
MEDICAL MATERIEL SET,X-RAY (DEPMEDS)	M72300	1					
MEDICAL MATERIEL SET,OP ROOM (DEPMEDS)	M72936	4					
MINI EYESAFE LASER INFRARED OBS SET AN/PVS-6	M74849	35					
MEDICAL MATERIEL SET,X-RAY (DEPMEDS)	M86675	1					
OPERATING AND TREATMENT OUTFIT,DENTAL,FIELD	P19377	1					
GENERATOR PWR PLANT,5KW,60HZ,TRLR MTD (TQG)	P28083	13					
POWER SUPPLY PP-6224/U	P40750	8					
GENERATOR PWR PLANT,30KW,60HZ,TRLR MTD (TQG)	P42126	12					
GENERATOR PWR PLANT,60KW,60HZ,TRLR MTD (TQG)	P42194	3					
GENERATOR PWR PLANT,10KW,60HZ,TRLR MTD (TQG)	P42262	3					
PUMP ASSEMBLY,ENG DRVN,FLAM LIQ,350 GPM W/REG	P97119	3					
PROCESSING MACHINE,RAD FILM	P98514	4					
RADIO SET AN/VRC-89A (SINCGARS)	R44863	225	225				
RADIO SET AN/VRC-92A (SINCGARS)	R45407	225	225				

USAR
Planned vs Actual Prior Year Procurements and Transfers

NOMENCLATURE	EQUIP	FY 98 Transfers		FY 98 PI-R Procurement		FY 98 NGREA	
	No.	Planned	Actual	Planned	Actual	Planned	Actual
RADIO SET AN/VRC-87A (SINCGARS)	R67160	202	202				
RADIO SET AN/VRC-88A (SINCGARS)	R67194	247	247				
RADIO SET AN/VRC-90A (SINCGARS)	R67908	652	652				
RADIO SET AN/VRC-91A (SINCGARS)	R68010	270	270				
RADIO SET AN/VRC-119A (SINCGARS)	R83005	360	360				
RIFLE,5.56 MM M16A2	R95035						
M4 CARBINE	R97234						
SPECTRUM ANALYZER AN/USM-489(V)1	S01416	9					
ROLLER,TOWED,VIBRATING,5TON	S10682	2					
ROLLER,VIBRATORY,SELF PROPELLED,HIGH IMPACT	S12916			40	22		13
SEMITRAILER,VAN,RPR STOR,6T	S74832	2					
TESTING KIT PETROLEUM MODERNIZATION SYSTEM	T05741	27					
TRUCK,UTILITY,SHELTER CARRIER (HMMWV)	T07543	600					
TRUCK,UTILITY,HEAVY VARIANT (HMMWV)	T07679			120		106	
TANK ASSY,FABRIC,COLLAPSIBLE,20K GAL,POL	T12620	2		16			
TANK ASSY,FABRIC,COLLAPSIBLE,WATER,3K GAL	T19033	35					
SHOP EQUIPMENT,AUTOMOTIVE MAINT	T24660	1					
SHOP EQUIPMENT,AUTOMOTIVE MAINT	T25619	1					
SHOP EQUIPMENT,AUTOMOTIVE MAINT	T25756	1					
SMALL EMPLACEMENT EXCAVATOR W/FRONT LOADER	T34437	16					
TENT,MODULAR,MEDICAL,64X20	T47745	57					
TRUCK,YARD TRACTOR,5T	T60353						1
TRUCK,TRACTOR,MED EQUIP TRANSPORTER,20T	T61171	8					
MTV Tractor M088A1	T61239					85	83
MTV Cargo M1083A1	T61908					5	5
TEST FACILITY,ELEC OQ-290	T61973	3					
TRUCK,WRECKER,M948E1,8X8 (HEMTT)	T63093			12	12		
SPREADER,LIFT,FRT,CONT	U12203	10					
TANK ASSEMBLY,FABRIC,10K GAL,POL	V12552	16					
TRACTOR,FT,LS,DED,MED	W83529	2					
TRUCK,CARGO,5T,DROP SIDE WW	X40931	1					
TRUCK,TANK,FUEL M49A2C	X57271	1					
TRUCK,WRECKER,M936,5T,6X6 W/W W/E	X63299	1					
MODERN BURNER UNIT	Z21129					331	331
ROUGH TERRAIN CONTAINER HANDLER	Z40997					16	16
HEMTT COMMON BRIDGE TRANSPORTER (CBT) KIT	Z92572					16	18
SANDBAG ATTACHMENT FOR M917A1						6	4

USAR
Major Item of Equipment Substitution List

NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is able to be deployed in wartime. This data meets the Title 10 requirement to identify equipment that is not the most desired item of equipment.

Required Item Nomenclature	*Equip No.*	*Substitute Item Nomenclature*	*Equip No.*	*FY 2002 QTY*	*Deployable Yes*	*No*
AIRPLANE CARGO-TRAN	A30062	AIRPLANE CARGO TRANSPORT:	AA1355	6	X	
AIRPLANE CARGO-TRAN	A30062	AIRPLANE CARGO TRANSPORT:C-12D	A29812	9	X	
ALARM CHEMICAL AGENT	A32355	AIRPLANE CARGO TRANSPORT:	A32060	47	X	
BATH UT SH-63LP	B43663	LOCAL-ASSIGNED LIN	LOCALA	70	X	
MONITOR CHEMICAL AGEN	C05701	LOCAL-ASSIGNED LIN	LOCALA	5	X	
BRDG ERCT SE FB UK	C22126	BRIDGE ERECT ST FIX BDGE:HWY TRUSS PTBL PNL WIDE RDWYBALYTY	C22058	5	X	
BRDG FIX HW AL 100 FT	C22811	BRIDGE FIXED: HIGHWAY PONY TRUSS PTBL PANEL BAILEY TYPE	C23017	6	X	
CL STEAM PRE JT TR MT	C32887	CLEANER STEAM PRESSURE JET: 650 PSI OIL-FIRED ELEC DR	C32603	5	X	
CL STEAM PRE JT TR MT	C32887	CLEANER STEAM PRESSURE JET:OS WATER SOURCE 1/2 HP 40TO 125P	E32398	64	X	
CL STEAM PRE JT TR MT	C32887	CLEANER STEAM PRESSURE JET:SKIDMTD 125 PSI MAX OIL HTD	E32466	35	X	
CL STEAM PRE JT TR MT	C32887	CLEANER STEAM PRESSURE JET:WITH STEAM GENBASE MTD 100 PSI	E32535	36	X	
RD SIG AN/APR-39A(V)1	D03159	DETECTION SET RADAR SIGNAL:AN/APR-39(V)1	D03091	62	X	
DIST WTR TNK WD6S	D28318	DISTRIBUTOR WATER TANK TYPE:GAS TRK MTD 1000 GAL	G28212	5	X	
DIST WTR TNK WD6S	D28318	TRUCK TANK: WATER 1000 GALLON 2-1/2 TON 6X6 W/E	X58367	7	X	
DRUM FABRIC 500 GAL	D69050	LOCAL-ASSIGNED LIN	LOCALA	138	X	
DECONTAMINATING APPARA	D82404	DECONTAMINATING APPARATUSPOWER DRIVEN SKID MOUNTED: MULTIPURP	F81880	7	X	
CRANE WHL M320RT	F39378	CRANE WHEEL MOUNTED: HYDROUGH TERRAIN (RTCC)	C39398	6	X	
CRANE WHL M320RT	F39378	CRANE TRUCK MOUNTED: HYD25TON CAT (CCE)	F43429	8	X	
CRANE WHL M320RT	F39378	LOCAL-ASSIGNED LIN	LOCALA	20	X	
CRANE-SHOVEL CRWLR MTD	F40474	LOCAL-ASSIGNED LIN	LOCALA	3	X	
FLOODLIGHT ST TLR MTD	F79334	LOCAL-ASSIGNED LIN	LOCALA	9	X	
FLOODLIGHT ST TLR MTD	F79334	FLOODLIGHT SET ELEC: 4 FLOODLIGHTS 120V 150W PTBL MTDON TRIPO	H79358	2	X	
FLOODLIGHT ST TLR MTD	F79334	FLOODLIGHT ST ELEC: PTBL6 LIGHTS MST MTD5KW 120/208V(ARMY)	H79221	280	X	
FLOODLIGHT ST TLR MTD	F79334	GEN ST DSL ENG: 5KW 60HZ36163PH AC 120/208120/240V TACUTIL	J35813	5	X	
FLOODLIGHT ST TLR MTD	F79334	GEN ST GAS ENG: 5KW 60HZ36163PH AC 120/240120/208V SKDTAC UTI	J47068	5	X	
GEN ST DSL MEP-802A	G11966	GEN ST DSL ENG: 5KW 60HZ36163PH AC 120/208120/240V TACUTIL	J35813	568	X	
GEN ST DSL MEP-802A	G11966	GEN ST GAS ENG: 5KW 60HZ36163PH AC 120/240120/208V SKDTAC UTI	J47068	90	X	
GEN ST DSL MEP-802A	G11966	MULTI-LIN		81	X	
GEN ST DSL MEP 806A	G12034	GEN ST DSL ENG: 60KW 60HZ3PH AC 120/208 240/416 50HZTAC UTIL	J38301	65	X	
GEN ST DSL MEP 806A	G12034	MULTI-LIN		10	X	
GEN ST DSL MEP-804A	G12170	GEN ST DSL ENG: 15KW 60HZ3PH AC 120/208 240/416V SKDTAC UTIL	J35835	51	X	
GEN ST DSL MEP-804A	G12170	MULTI-LIN		9	X	
GENERATOR SET DIESEL E	G35851	GEN ST DSL ENG TM: 30KW 60HZMTD ON M-200A1 PU-406	J36383	44	X	
GENERATOR SET DIESEL E	G35851	MULTI-LIN		10	X	
GEN SET DED TM: 10KW 6	G42170	GEN ST DSL ENG TM: 10KW 60HZMTD ON M116 PU-753/M	G40744	30	X	
GEN SET DED TM: 10KW 6	G42170	MULTI-LIN		9	X	
GENERATOR SET DIESEL E	G53778	GEN ST DSL ENG TM: 15KW 60HZMTD ON M-200A1 PU-405	J35492	95	X	
GENERATOR SET DIESEL E	G53778	MULTI-LIN		51	X	
GEN ST DSL MEP 805A	G74575	GEN ST DSL ENG: 30KW 60HZ3PH AC 120/208 240/416V 50HZTAC UTI	J36109	30	X	
GEN ST DSL MEP 805A	G74575	MULTI-LIN		16	X	
GEN ST DSL MEP-803A	G74711	GEN ST DSL ENG: 10KW 60HZ1-3PH AC 120/208120/240V TAC UTIL	J35825	250	X	
GEN ST DSL MEP-803A	G74711	GEN ST DSL ENG: 15KW 60HZ3PH AC 120/208 240/416V SKDTAC UTIL	J35835	25	X	
GEN ST DSL MEP-803A	G74711	`		115	X	
GRADER ROAD CAT 130G	G74783	GRADER ROAD MOTORIZED: DSL DRVN 10000LB 12FT BLADE W/LEAN FRTW	J74920	5	X	
GENERATOR SET: DIESEL	G78306	GEN ST DSL ENG TM: 60KW 60HZMTD ON M-200A1 PU-650	J35629	52	X	
GENERATOR SET: DIESEL	G78306	MULTI-LIN		10	X	
ELECTRONIC SHOP SEMITR	H01855	ELECTRONIC SHOP SEMITRAILERMOUNTED: AN/ASM-190 LESS POWER	H01857	4	X	
ELECTRONIC SHOP SEMITR	H01855	ELECTRONIC SHOP SHELTER MOUNTED AVIONICS:AN/ASM-147 LESS POWE	H01912	2	X	
EL S AN/ASM-146B L/P	H01907	ELECTRONIC SHOP SEMITRAILERMOUNTED: AN/ASM-189 LESS POWER	H01855	4	X	
EL S AN/ASM-146B L/P	H01907	ELECTRONIC SHOP SHELTER MOUNTED AVIONICS:AN/ASM-147 LESS POWE	H01912	10	X	
EL SHP AN/ASM-147B	H01912	TRUCK VAN: EXPANSIBLE 5 TON6X6 (ARMY)	X62237	1	X	
HF RADIO SET: AN/GRC-1	H35404	RADIO SET: AN/GRC-106	Q32756	91	X	
HF RADIO SET: AN/GRC-1	H35404	MULTI-LIN		98	X	
FUEL SYS SUP PT	J04717	LOCAL-ASSIGNED LIN	LOCALA	94	X	
GEN ST DSL MEP 002A	J35813	GEN ST DSL ENG: 10KW 60HZ1-3PH AC 120/208120/240V TAC UTIL	J35825	1	X	
GEN ST DSL MEP 002A	J35813	GEN ST GAS ENG: 3KW 60HZ36163PH 120/240 120/208V SKD TAC UTILIT	J45699	1	X	
GEN ST DSL MEP 002A	J35813	GEN ST GAS ENG: 5KW 60HZ36163PH AC 120/240120/208V SKDTAC UTI	J47068	3	X	

USAR
Major Item of Equipment Substitution List

Required Item Nomenclature	*Equip No.*	*Substitute Item Nomenclature*	*Equip No.*	*FY 2002 QTY*	*Deployable Yes*	*No*
GEN ST DSL MEP 003A	J35825	GEN ST DSL ENG: 5KW 60HZ36163PH AC 120/208120/240V TACUTIL	J35813	12	X	
GEN ST DSL MEP 003A	J35825	MULTI-LIN		23	X	
GEN ST MEP 108A	J40150	GEN ST DSL ENG: 200KW 60HZ 3PH AC 240/416VSKD TACTICAL UTILIT	J40158	4	X	
HYPOCLNTN ST A506	K60988	LOCAL-ASSIGNED LIN	LOCALA	8	X	
LANDING CRAFT MECHANIZ	L36739	LOCAL-ASSIGNED LIN	LOCALA	3	X	
LAUNDRY UNIT TRAILER M	L48315	LOCAL-ASSIGNED LIN	LOCALA	62	X	
LTWT DIG FAC AN/UXC-7	L67964	LOCAL-ASSIGNED LIN	LOCALA	1	X	
LTWT DIG FAC AN/UXC-7	L67964	INTERIM TACTICAL FACSIMILE DEVICE: AN/GXC-7A	J35221	2	X	
LTWT DIG FAC AN/UXC-7	L67964	TELEPHONE DIGITAL NON-SECUREVOICE: TA-1035/U	T45408	1	X	
LDR GP BUCK CLRK 175B	L76321	LOADER SCOOP TYPE: DSL 2-36162CU YD HINGE FRME W/MULTI PURP BUCK	L76556	7	X	
MMS CENTRAL MATERIAL	M08417	LOCAL-ASSIGNED LIN	LOCALA	6	X	
MMS INTER CARE WARD	M08599	LOCAL-ASSIGNED LIN	LOCALA	132	X	
MACH GUN 5.56MM M249	M09009	MACHINE GUN 7.62 MILLIMETER:LIGHT FLEXIBLE	L92386	320	X	
MACH GUN 5.56MM M249	M09009	RIFLE 5.56 MILLIMETER: M16A1	R94977	103	X	
MMS POST-OP/ICU DEP	M09576	LOCAL-ASSIGNED LIN	LOCALA	166	X	
MASK FLD ABC-M17A1 S	M11895	MASK CHEMICAL BIOLOGICAL:M40	M12418	2037	X	
MASK CHEM BIO M40 SM	M12418	MASK CBR: PROTECTIVE FIELD	M11895	8674	X	
MASK CHEM BIO M40 SM	M12418	MASK CHEMICAL BIOLOGICAL:COMBATVEHICLE M42	M18526	61	X	
MTG KT SM GEN M284	M17931	MOUNTING KIT SMOKE GENERATOR: M288	M78620	144	X	
MASK CH BI C V M42 SM	M18526	MASK CHEMICAL BIOLOGICAL:M40	M12418	149	X	
MASK CH BI C V M42 SM	M18526	MASK: PROTECTIVE TANK	M10936	134	X	
MES SICK CALL FLD (2)	M30156	MEDICAL EQUIPMENT SET BATTALION AID STATION:	M23218	1	X	
MES SICK CALL FLD (2)	M30156	MES BATTALION AID STATION:	M52274	6	X	
MMS X-RAY DEPMEDS:	M72300	LOCAL-ASSIGNED LIN	LOCALA	9	X	
MMS OPERATING ROOM	M72936	LOCAL-ASSIGNED LIN	LOCALA	71	X	
MELIOS LASER AN/PVS-6	M74849	LASER INFRARED OBSERVATION SET: AN/GVS-5	L40063	6	X	
MG GRENAD MK19 MODIII	M92362	MACHINE GUN 5.56 MILLIMETER:M249	M09009	12	X	
NI VI AN/PVS-4 W/IMG	N04732	LOCAL-ASSIGNED LIN	LOCALA	36	X	
NIGHT VIS G AN/PVS-7B	N05482	LOCAL-ASSIGNED LIN	LOCALA	9	X	
NIGHT VIS G AN/PVS-7B	N05482	NIGHT VISION GOGGLES: AN/PVS-5	N04456	1337	X	
NIGHT VIS G AN/PVS-7B	N05482	NIGHT VISION SIGHT CREW SERVED WEAPON: AN/TVS-5	N04596	10	X	
NIGHT VIS G AN/PVS-7B	N05482	NIGHT VISION SIGHT INDIVIDUAL SERVED WEAPON: AN/PVS-4	N04732	156	X	
OPERATING & TRMT UNIT	P19377	DENTAL OPERATING AND TREATMENT UNIT FIELD:	F95601	120	X	
POWER PLANT ELEC DED T	P28083	MULTI-LIN		9	X	
PWR SUPPLY PP-6224/U	P40750	POWER SUPPLY: PP-2953/U	P38588	134	X	
POWER PLANT: ELECTRIC	P42126	POWER PLANT ELEC TM: 30KW60HZ 2EA PU-406W/DIST BOX AN/MJQ-10	P27819	29	X	
POWER PLANT: ELECTRIC	P42194	GEN ST DSL ENG: 60KW 60HZ3PH AC 120/208 240/416 50HZTAC UTIL	J38301	1	X	
POWER PLANT: ELECTRIC	P42194	POWER PLANT ELEC TM: 60KW60HZ 2EA PU-650W/DIST BOX AN/MJQ-12	P27823	5	X	
PWR DIESEL ENG	P42262	POWER PLANT ELEC DED TM:10KW 60HZ 2EA MTDON M103A1-AN/MJQ-18	P28015	32	X	
PWR DIESEL ENG	P42262	POWER PLANT ELEC TM: 5KW60HZ 2EA MTD ON M103A3 AN/MJQ-16	P41832	2	X	
PUMP CTRF GD FM 125GM	P92030	LOCAL-ASSIGNED LIN	LOCALA	22	X	
PUMP CTRF GD FM 125GM	P92030	PUMP CENTRF: GAS DRVN FRAMEMTD 1-1/2 IN 65GPM 50 FT HD	P91756	580	X	
RADIO SET: AN/GRC-213	R30895	MULTI-LIN		70	X	
RADIAC SET AN/PDR-75	R30925	MULTI-LIN		18	X	
RADIO ST AN/VRC-89A	R44863	MULTI-LIN		466	X	
RADIO SET: AN/VRC-92A	R45407	MULTI-LIN		108	X	
RADIO SET: AN/PRC-104A	R55200	RADIO SET: AN/PRC-70	R38349	1	X	
RADIO SET: AN/PRC-104A	R55200	RADIO SET: AN/PRC-74	Q38296	106	X	
REFRIGERATION UNIT MEC	R61428	LOCAL-ASSIGNED LIN	LOCALA	10	X	
RADIO ST AN/VRC-87A	R67160	MULTI-LIN		69	X	
RADIO ST AN/VRC-88A	R67194	MULTI-LIN		420	X	
RADIO SET: AN/VRC-90A	R67908	MULTI-LIN		921	X	
RADIO SET: AN/VRC-91A	R68010	MULTI-LIN		574	X	
RADIO ST AN/PRC-119A	R83005	MULTI-LIN		234	X	
RIFLE 5.56MM M16A2	R95035	MACHINE GUN 5.56 MILLIMETER:M249	M09009	112	X	
RIFLE 5.56MM M16A2	R95035	RIFLE 5.56 MILLIMETER: M16A1	R94977	20312	X	
STLR TANK FUEL M967	S10059	SEMITRAILER TANK: 5000 GAL FUEL DISPENSINGAUTOMOTIVEW/E	S73372	3	X	
ROLLER ESSIK VR55TM	S10682	LOCAL-ASSIGNED LIN	LOCALA	10	X	
ROLLER ESSIK VR55TM	S10682	ROLLER TOWED SHEEPSFOOT:2 DR	S12575	1	X	
FOOD SANITATION CENTE	S33399	LOCAL-ASSIGNED LIN	LOCALA	784	X	

USAR
Major Item of Equipment Substitution List

Required Item Nomenclature	*Equip No.*	*Substitute Item Nomenclature*	*Equip No.*	*FY 2002 QTY*	*Deployable Yes*	*No*
STLR LB 22-1/2T M871	S70027	MULTI-LIN		108	X	
STLR TNK FUEL M969	S73372	MULTI-LIN		13	X	
SEMITRAILER VAN: REPAI	S74832	MULTI-LIN		20	X	
STLR VAN SUP M129A1C	S75175	MULTI-LIN		17	X	
TRK UTIL 10000 M1097	T07679	MULTI-LIN		210	X	
S/EQ DAVEY COMP CMU-5	T10138	MULTI-LIN		14	X	
TANK ASSY 20000 PETRO	T12620	LOCAL-ASSIGNED LIN	LOCALA	240	X	
TRCTR WHLD EXCAV	T34437	LOADER SCOOP TYPE: DSL 2-36162CU YD HINGE FRME W/MULTI PURP BUCK	L76556	2	X	
TRCTR WHLD EXCAV	T34437	TRACTOR WHL IND: DSL W/BACKHOE W/LOADER W/HYD TOOL ATTACH (CCE	W91074	3	X	
TRK CGO TACT	T39586	MULTI-LIN		46	X	
TRK CGO PLS M1075	T40999	TRUCK CARGO: HEAVY PLS TRANSPORTER 15-16.5TON 10X10 W/MHE W/E	T41067	97	X	
TRK LF DD MDL DV43	T48941	CRANE WHEEL MOUNTED: HYDROUGH TERRAIN (RTCC)	C39398	1	X	
TRK LF DD MDL DV43	T48941	TRUCK LIFT FORK: DSL DRVN10000 LB CAP 48IN LD CTR ROUGH TERRA	T49119	4	X	
TRUCK LIFT FORK: DED 6	T48944	MULTI-LIN		4	X	
TRK LF DD IHC M-10A	T49119	MULTI-LIN	T48944	16	X	
TRUCK LIFT FORK: DSL D	T49255	MULTI-LIN		97	X	
MOBILE SUBS AN/VRC-97	T55957	RADIO SET: AN/VRC-46	Q53001	1	X	
MOBILE SUBS AN/VRC-97	T55957	RECEIVER TRANSMITTER: RT-1539(P)A(C)/G	R30434	3	X	
TRK TK FS M978 W/W	T58161	TRUCK TANK: FUEL SERVICING 2500 GALLON 8X8HEAVY EXP MOB	T87243	4	X	
TRK CGO TACT	T59278	TRUCK CARGO: TACTICAL 8X8HEAVY EXPANDED MOBILITY W/MED CRANE	T39586	4	X	
TRK CGO TACT	T59278	TRUCK CARGO: TACTICAL 8X8HEAVY EXPANDED MOBILITY W/WW/LT CRA	T39518	5	X	
TRK CGO 4X4 M1078	T60081	TRUCK CARGO: 2-1/2 TON 6X6 W/E	X40009	8	X	
TRK CGO 4X4 M1078	T60081	TRUCK CARGO: 2-1/2 TON 6X6 W/WINCH W/E	X40146	1	X	
TRK CGO 4X4 W/W M1078	T60149	TRUCK CARGO: 2-1/2 TON 6X6 W/E	X40009	6	X	
TRK CGO 4X4 W/W M1078	T60149	TRUCK CARGO: 2-1/2 TON 6X6 W/WINCH W/E	X40146	11	X	
TRK TRAC M878	T60353	MULTI-LIN		27	X	
TRK TRAC M878	T60353	TRUCK TRACTOR: LINE HAULC/S50000 GVWR 6X4 M915	T61103	5	X	
TRK TRAC M915	T61103	MULTI-LIN		24	X	
TRK TRAC M920	T61171	TRUCK TRACTOR: LET 6X6 660GVW W/W C/S	T91656	327	X	
TRK TRCTR MTV M1088	T61239	TRUCK TRACTOR: 5 TON 6X6W/E	X59326	4	X	
TRK TRCTR MTV M1088	T61239	TRUCK TRACTOR: 5 TON 6X6W/WINCH W/E	X59463	1	X	
TRK UTIL 1-1/4T M998	T61494	MULTI-LIN		1386	X	
TRK UTIL 1-1/4T M998	T61494	TRUCK CARGO: TACTICAL 5/4TON 4X4 W/E M1008	T59482	581	X	
TRK UTIL 1-1/4T M998	T61494	TRUCK UTILITY: TACTICAL 3/4TON W/E M1009	T05028	1168	X	
TRK UTIL 1-1/4T M1038	T61562	TRUCK UTILITY: ARMT CARRIERARMD 1-1/4 TON4X4 W/E (HMMWV)	T92242	52	X	
TRK UTIL 1-1/4T M1038	T61562	TRUCK UTILITY: CARGO/TROOP CARRIER 1-1/4 TON 4X4 W/E (HMMWV)	T61494	64	X	
TRUCK CARGO: MTV W/E	T61908	TRUCK CARGO: 5 TON 6X6 LWB W/E	X40831	1	X	
TRUCK CARGO: MTV W/E	T61908	TRUCK CARGO: DROP SIDE 5TON6X6 W/E	X40794	12	X	
TRUCK CARGO: MTV W/E	T61908	TRUCK CARGO: DROP SIDE 5TON6X6 W/WINCH W/E	X40931	13	X	
TRK WRK M984 W/W	T63093	TRUCK WRECKER: 5 TON 6X6W/WINCH W/E	X63299	24	X	
TRK DMP MTV W/E M1090	T64911	TRUCK DUMP: 5 TON 6X6 W/E	X43708	31	X	
TRK DMP MTV W/E M1090	T64911	TRUCK DUMP: 5 TON 6X6 W/WINCH W/E	X43845	3	X	
TRK LFT FK VAR RCH RT	T73347	MULTI-LIN		93	X	
TRK TK FS M978	T87243	MULTI-LIN		131	X	
TK TR CBT W/O W M1977	T91308	TRANSPORTER BRIDGE FLOATING:	X23277	23	X	
TRK UTIL 1-1/4T M1025	T92242	MULTI-LIN		85	X	
TRAILER: PALLETIZED LO	T93761	TRAILER BOLSTER: GENERALPURPOSE 4 TON 4 WHEEL W/E	W94536	23	X	
TRK WKR MTV W/W M1089	T94709	TRUCK WRECKER: 5 TON 6X6W/WINCH W/E	X63299	6	X	
SPREADER LIFT FRT CON	U12203	SPREADER LIFTING FRT CONTAINER: TOP LIFT SEMIAUTO 40 FT LG CON	U12204	2	X	
TANK ASY PTR 10000GAL	V12552	TANK FABRIC COLLAPSIBLE:PETROLEUM 10000 GAL	V15292	150	X	
TANK LIQ DISP TRLR MT	V19950	MULTI-LIN		95	X	
WELDING SHOP TRAILER M	W48391	MULTI-LIN		26	X	
TRCTR FT CAT D7F DV29	W76816	MULTI-LIN		13	X	
TRCTR FT CAT D7F DV29	W83529	MULTI-LIN		14	X	
TLR CGO 3/4TON M101	W95537	MULTI-LIN		138	X	
TRUCK LIFT FORK: ELEC	X50436	TRUCK LIFT FORK: ELEC 4000 LB 180 IN LH	X50489	50	X	
TRK FS 21/2T M49A2C	X57271	TRUCK TANK: FUEL SERVICING 2500 GALLON 8X8HEAVY EXP MOB W/WIN	T58161	1	X	
WELDING SHOP TRAILER M	Y48323	WELDING MACHINE ARC: SHIDMTD DC CC/CV 350A	W47364	1	X	
WELDING SHOP TRAILER M	Y48323	WELDING SHOP TRAILER MOUNTED: OXY-ACET/ELEC ARC	W48391	7	X	

USAR
Significant Major Item Shortages

NOTE: This table provides an Army Reserve top ten prioritized (PR) unfunded list for major items of equipment required for wartime missions but which are currently not funded in the FYDP. It lists the total quantity required, the total unfunded requirement (UFR), and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.

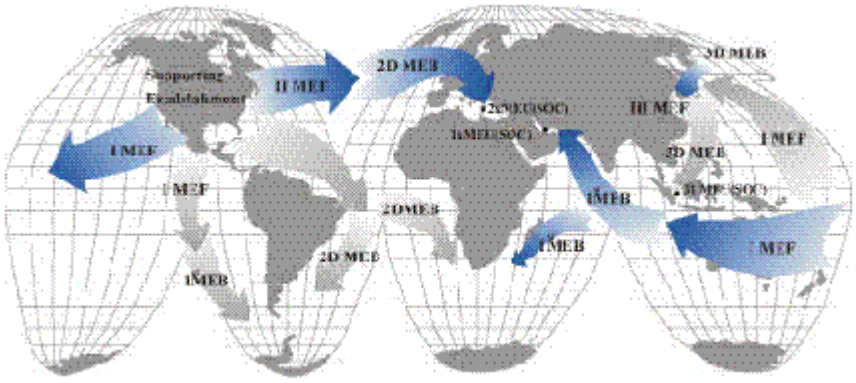
PR	NOMENCLATURE	TOTAL REQ'D	UFR	UFR COST	RATIONALE / JUSTIFICATION
1	UH-60L BLACK HAWK HELICOPTER	24	16	$179,000,000	Black Hawk helicopters would fill shortages in Army Reserve General Support Aviation Companies required in three active component warfighting divisions: the 1st Armor Division, the 1st Infantry Division (Mechanized), and the 3rd Infantry Division (Mechanized).
2	LIGHT MEDIUM TACTICAL VEHICLE 2.5-TON TRUCK (LMTV)	4851	2710	$345,000,000	LMTVs would fill critical shortages in company-level combat service support (CSS) units in all Force Packages.
3	MEDIUM TACTICAL VECHILE (MTV) 5-TON TRUCK	6916	3981	$637,000,000	MTVs would fill critical shortages in company-level combat service support (CSS) units in all Force Packages.
4	HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV)	16204	5657	$324,000,000	HMMWVs would fill critical shortages to 100% of the total requirement within company-level CS and CSS units of the Army Reserve
5	MILITARY SATELLITE COMMUNICATION SHF TRIBAND ADVANCED RANGE EXTENSION (STAR-T)	33	33	$40,000,000	Tactical Satellite Communications would fill critical shortages in company-level CS units.
6	TACTICAL FIRE FIGHTING TRUCK (TFFT)	67	11	$6,000,000	TFFT's would fill critical shortages in CSS units for all Force Packages.
7	HELICOPTER CH-47 CHINOOK	64	6	$192,000,000	CH-47 helicopters would fill critical shortages three aviation companies designated as Force Package 1.
8	ALL TERRAIN LIFTING ARMY SYSTEM (ATLAS) 10K	1009	450	$45,000,000	ATLAS vehicles would fill critical shortages in CSS units in all Force Packages.
9	TRUCK, ROUGH TERRAIN CONTAINER HANDLER (RTCH) 53K	281	145	$76,000,000	Container Handlers would fill critical shortages in CSS units in all Force Packages.
10	MODULAR CAUSEWAY SYSTEM (MCS)	9	9	$14,000,000	MCS fills requirements in Force Package 1 Floating Causeway Companies in SRC 55 and Engineer Port Opening Companies in SRC 05.

Chapter 3
United States Marine Corps Reserve

I. Marine Corps Overview

a) Overall Marine Corps–wide Planning Guidance: The United States faces a dynamic and uncertain security environment. To meet the challenges and opportunities presented by this security environment, the National Military Strategy requires versatile, yet powerful forces that can respond quickly to fast-breaking events in regional situations. A critical requirement is to project and sustain decisive military power in forward areas where challenges and America's interest converge. Usually, the force-of-choice to safeguard these vital U.S. interests is forward deployed naval expeditionary forces.

The strategic role of the Marine Corps, as defined by the 82nd Congress, remains unchanged: to provide a capable expeditionary force-in-readiness that is responsive, versatile, adaptable, and powerful. The Marine Forces Reserve (MARFORRES) continues to be an essential part of that capable and ready naval expeditionary force. As a force in readiness, the Active component has primary responsibility for forward presence, winning "first" battles, operations other than war, and response to crises. The Reserve component supports these missions as required, but more importantly, augments and reinforces the Active component, creating a Marine Corps Total Force capable of sustained combat in the event of a major theater war. Marines in the Reserve component share the same commitment to expeditionary readiness as their Active component counterparts and meet common training, equipment, and readiness criteria. MARFORRES units routinely exercise with the Active forces and are assigned missions that lead to relevant combat responsibilities. Therefore, the Marine Corps Reserve component must remain prepared and properly equipped to fight along side the Active component when needed.



Scalable Marine Forces: Marine Expeditionary Force (MEF) to Marine Expeditionary Brigade (MEB) to Marine Expeditionary Unit (Special Operations Capable) [MEU(SOC)]

b) Marine Corps-wide Equipping Policy: To meet the challenges of the future, the Marine Corps is aggressively pursuing a modernization effort to enhance its capability to project power when and where it is needed. Fighting smartly is reflected in the Marine Corps commitment to getting the most out of every resource dollar. Crucial to this is the Combat Development System (CDS). The CDS is an integrated process that is based on operational and functional concepts of

formulating warfighting requirements, implementing efficient and effective programs, and establishing operational capabilities in support of Marine Air-Ground Task Forces (MAGTF). The CDS includes the continuous examination and evaluation of Marine Corps combat capabilities and concepts to identify deficiencies and develop new concepts and required capabilities. The CDS combines doctrinal, organizational, training and education, and facilities and support requirements into a single integrated "cradle to grave" process.

From the CDS, the Marine Corps develops a single Approved Acquisition Objective (AAO). The AAO includes equipment modernization plans and addresses all initial issue quantities and planned sustainability requirements for the Active and Reserve components. There are three types of appropriations the Reserve component utilizes for procurement of ground and aviation equipment and aircraft: Procurement Marine Corps (PMC), Aircraft Procurement Navy (APN), and National Guard and Reserve Equipment Appropriations (NGREA). PMC is the primary source of funding for ground equipment, and APN is the primary source of funding for aviation equipment. NGREA is a congressional add not part of the formal budgeting process, used historically to fund a significant portion of Reserve ground and aviation equipment requirements.

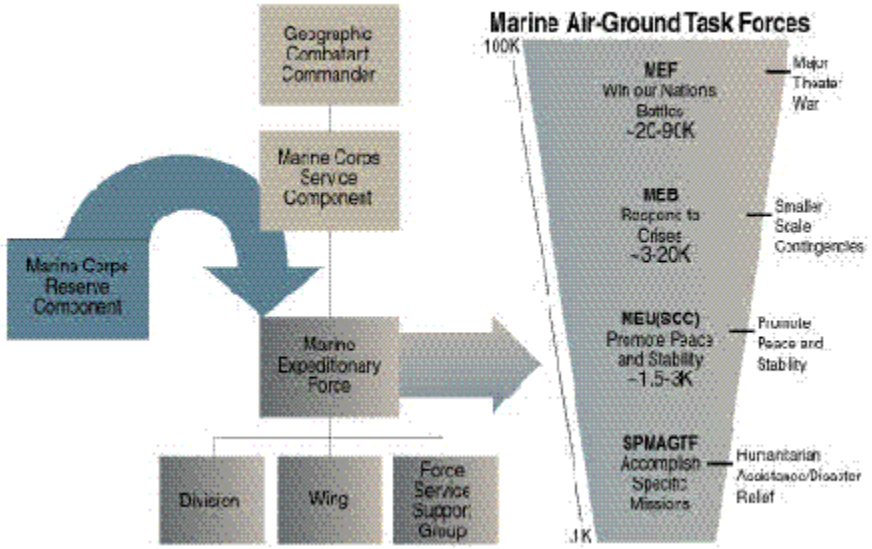
The Marine Corps uses both vertical and horizontal equipment fielding to equip the Total Force. In vertical fielding, equipment is fielded to one unit at a time. This enables a unit to obtain operational capability at the earliest possible time. In contrast, horizontal fielding provides equipment to multiple units simultaneously. Reserve ground and aviation units are generally provided with the same type of equipment fielded to the Active component. This approach ensures that Reserve systems and equipment are interoperable with the Active forces to the degree that resources allow.

c) Marine Corps Plan to Fill Mobilization Shortages in the RC: The total wartime equipment requirement for MARFORRES is called the Table of Organization and Equipment (T/O&E). For MARFORRES, this T/O&E consists of two parts: a Training Allowance (T/A) and In-stores assets. The equipment MARFORRES units maintain at their training sites is called the T/A. The T/A is largely determined by training requirements, space limitations at the unit training sites, and staffing levels. The balance of the MARFORRES equipment requirements is referred to as the In-stores assets. These assets are held at the two Marine Corps Logistics Bases (MARCORLOGBASES), located at Albany, GA, and Barstow, CA.

Due to the age of equipment and past funding constraints, the operational availability of the In-stores assets is relatively low. However, upon mobilization, MARFORRES ground equipment shortfalls will be augmented with Remain Behind Equipment (RBE) left by Active component units deploying to locations with pre-positioned assets. MARFORRES units may also benefit from pre-positioned assets contingent on the Operational Plan being executed. Hence, when MARFORRES units mobilize and integrate into the gaining MAGTF, equipment shortfalls may be offset by RBE and/or pre-positioned equipment.

d) Current Marine Corps Initiatives Affecting RC Equipment: MARFORRES units are vital to the Total Force as they provide significant support for operational missions and additional combat power to complement the Active force. In order to be successful as a force multiplier upon mobilization, MARFORRES must possess and train on the same modern equipment as the

Active force. In his Commandant's Guidance, General Jones stated his intent to resource the Marine Corps Reserve at levels similar to that of the Active component. This commitment is indicative of the Marine Corps Total Force approach to modernization and readiness.



Marine Forces Reserve provides ready and responsive Marines and Marine Forces who are integrated into MAGTFs for mission accomplishment.

The MAGTF remains the bedrock of the organization for combat and the foundation for the Marine Corps' future success. To achieve the full benefit of the combined arms concept upon mobilization, MARFORRES must be equipped and trained to the same standards as their Active counterparts in each element of the MAGTF: command element, ground combat element, aviation combat element, combat service support element, and bases and stations—in both the near and long term. However, the dramatic increases in the Marine Corps operational requirements, coupled with budget constraints over the last several years, have effectively slowed equipment modernization for the Reserve component. The Marine Corps Total Force continues to maintain its current status with "legacy systems" at the expense of future readiness. "Legacy systems" comprise equipment from the past, handed down from our predecessors.

The Marine Corps Reserve's greatest short-term readiness and modernization need continues to be in the aviation community. Upgrading the fleet of 48 F/A-18A's with Engineering Change Proposal 583 (ECP 583) is the Marine Corps Reserve's number one equipment related initiative. The aircraft, as currently configured, lacks state of the art avionics and weapon systems required by the regional Commanders-in-Chief (CINC) to execute Theater Engagement Plans and respond to crises. Moreover, analysis indicates that this series aircraft will remain in the operational inventory through 2015 in order to bridge the gap to the Joint Strike Fighter (JSF). ECP 583 is a Total Force initiative designed to upgrade 76 aircraft (28 Active/48 Reserve), to provide the capability to self-designate precision munitions, to employ the newest generation of air-to-ground weapons, and to conduct night operations. Funds appropriated since FY 1998 will upgrade 44 aircraft (22 Active/22 Reserve) to full ECP 583 configuration leaving a requirement for upgrading 32 aircraft (6 Active/26 Reserve) in the Total Force.

The Marine Corps Reserve's second modernization priority is upgrading the fleet of 19 CH-53E helicopters with Helicopter Night Vision System (HNVS) Kits. The Reserve and Active forces are hampered by insufficient quantities of HNVS, which limits the operational commander's ability to respond to mission requirements. Funds appropriated from FY 1998 to FY 2001 will upgrade 10 aircraft. Installation of the HNVS B Kit requires a resident HNVS A Kit in the aircraft. The HNVS A kit provides modifications to the cockpit layout along with the hardware necessary to accept the HNVS B Kit. Procuring the remaining 9 HNVS-B Kits and 9 HNVS-A Kits will improve the capability of Reserve CH-53E helicopters to navigate and operate at night and during periods of reduced visibility.

Another rapidly emerging modernization initiative concerns the upgrade of 28 KC-130T's with the Avionics Modernization Program (AMP). The avionics equipment installed in the KC-130T is outdated, out of production, and rapidly approaching obsolescence. The KC-130T's configuration does not comply with emerging Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) or mandated Navigation/Safety requirements. Failure to comply with emerging CNS/ATM requirements will result in exclusion from preferred oceanic routes and military airspace, longer flight times, and restrictions on approach and landing. Operational commanders can ill afford potential restrictions to the employment of these aircraft given the documented shortage of lift assets within the Department of Defense. This initiative seeks to leverage the USAF C-130 AMP program to upgrade over 500 aircraft – nearly 400 of which are funded. The Marine Corps Reserve supports the AMP program as a Department of the Navy (DON) initiative, combining the need to upgrade 28 Marine Reserve KC-130Ts with an associated need to upgrade 20 Navy Reserve C-130Ts. This modernization program will allow the Reserve component KC-130Ts to continue to provide needed lift assets to the Operating Forces.

Reserve KC-130 and F/A-18s participating in Bright Star 00

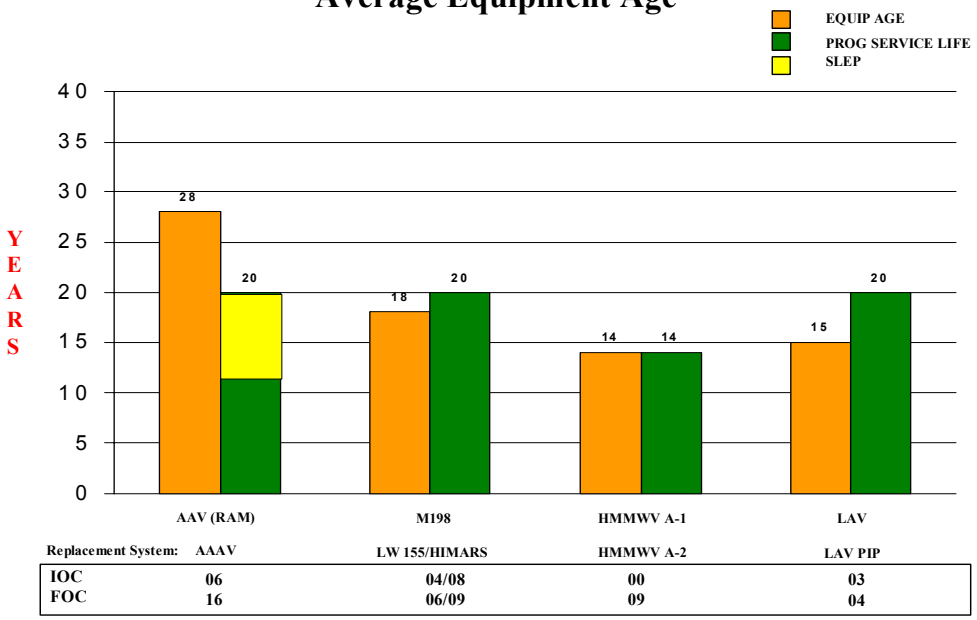
The Marine Corps' longer-term aviation goals include accelerated fielding of the MV-22 Osprey to the Reserve component. The MV-22 Osprey is a tilt rotor, vertical/short takeoff and landing aircraft designed to replace the current obsolescence fleet of CH-46E helicopters in MARFORRES. The average age of CH-46E helicopters in the Reserve component inventory is 34 years. The MV-22 will join the Advanced Amphibious Assault Vehicle (AAAV) and the Navy's Landing Craft, Air Cushion (LCAC) as an integral part of the amphibious triad necessary to execute Operational Maneuver from the Sea (OMFTS). Completion of these initiatives will provide the regional CINCs with a relevant, lethal, and effective aviation combat element in forward deployed MAGTFs.

While fixed and rotary wing aviation modernization is the most pressing need of the Marine Corps Reserve, a balanced approach concerning vital ground combat and logistics modernization will ensure the Reserve component remains an effective combined arms team. The primary equipment and weapon systems in the ground combat element are aging and reaching their programmed service life as shown in *Chart 1* and *Table 2*. The reliance on aging ground equipment negatively impacts warfighting capabilities in many ways. The buildup of combat power ashore is slowed and more predictable. For example, the M198 Towed Howitzer lacks sufficient range to provide essential fire support to maneuver elements. The key to rectifying this situation is through the acceleration of force modernization plans for the Reserve component.

Chart 1

GROUND COMBAT ELEMENT

Average Equipment Age



Over the next decade, the Marine Corps will field the following key ground weapon system platforms, each at the cutting edge of technology, to bring the OMFTS concept to fruition: the AAAV, the High Mobility Artillery Rocket System (HIMARS), and the Lightweight 155 mm

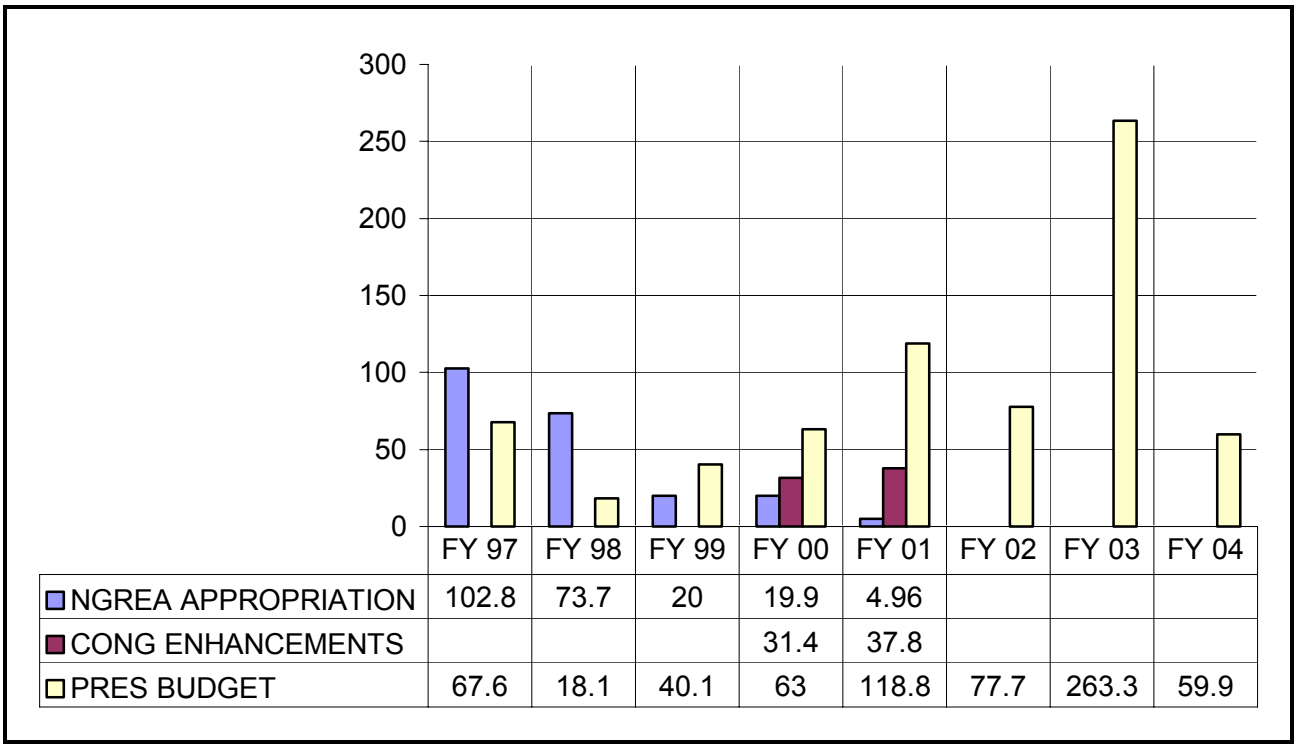
(LW 155) Howitzer. Additionally, the replacement of the High Mobility Multipurpose Wheeled Vehicles (HMMWV) with the HMMWV A-2, acquisition of the Medium Tactical Vehicle Replacement (MTVR) to replace our existing tactical trucks, and acquisition of the new tank recovery vehicle (Improved Recovery Vehicle M88A-2) are crucial steps in Marine Corps' efforts to modernize ground mobility. Lethality and the ability to maneuver our forces remain the cornerstone requirements for the ground combat element

One of the positive outcomes of additional procurement funds in recent years for Reserve equipment has been to enhance the Reserve Component capability to seamlessly augment the Active Component. These additional PMC funds and Congressional adds have partially offset reductions in NGREA funds available to the Reserve component (see *Chart 2*). As a result of an increase in Marine Corps Procurement funds specifically destined for the Reserve Component, MARFORRES is able to procure additional equipment to help meet its requirements and maintain combat readiness. Some of the more significant items recently identified for procurement are listed in *Chart 3*.

Chart 2

USMC Equipment Procurement Comparison

($Millions)



	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
NGREA APPROPRIATION	102.8	73.7	20	19.9	4.96			
CONG ENHANCEMENTS				31.4	37.8			
PRES BUDGET	67.6	18.1	40.1	63	118.8	77.7	263.3	59.9

Chart 3

USMCR Selected Procurement Items

($Millions)

Program	FY 00	FY 01	FY 02	FY 03	FY 04
F/A-18 ECP-583 (Includes Active component funding)	56.65	68.25	11.70	12.00	
CH-53E HNVS		3.62			
AH-1W NTS	5.00	4.00			
ATFLIR		3.00			
LTWT 155 HOWITZER		1.92		17.30	25.60
Radio Systems			38.70	.10	
Predator (SRAW)			2.00		
AFATDS	0.46	0.43			
Truck Utility (HMMWVA2)	13.03	19.6			
Assault Amphib Veh 7A1 PIP	2.00	1.92	11.10	.20	.50
Light Armor Veh PIP					6.40
Improve Recovery Veh (IRV)		3.99	6.30	22.30	.60
Gen Purpose Elec Test Equip	1.20	1.20	1.30	1.40	1.40
MTVR				181.70	
Training Devices		5.68	4.90	5.60	1.60
Container Family	1.16	0.96	1.20	1.20	1.30
Common End User Comp Equipment	2.00	2.00			

The Marine Corps operational doctrine emphasizes sea-basing and minimizing logistics and administrative forces ashore. The Reserve component is aggressively pursuing its efforts in efficient use of desktop computers, high performance networks, and sophisticated applications to automate labor-intensive, day-to-day, administrative functions through the Common End User Computer Equipment (CEUCE) programs. CEUCE programs will automate Reserve career management and tracking system, medical entitlements, administrative separations, and orders writing capability in geographically dispersed MARFORRES units. This capability will decrease the need for co-location of the administrative structure with the supported Marines. With over thirty-nine thousand Reserve Marines located in 185 sites across the country, the Reserve component is tackling the same type of challenges that the Active component will encounter in the near future: providing timely administrative support from centralized locations to forces deployed worldwide.

Future use is envisioned to coordinate multi-unit simulated tactical training, military occupational specialty training, video tele-training and conferencing, multimedia training, and to provide information sharing and exchange among Marines in the Reserve component between scheduled drill periods.

The Marine Corps Reserve is also experiencing a trend in rising maintenance costs as evidenced by an increased frequency of breakdowns of aging equipment. Aging equipment and the maintenance of these legacy systems continue to be one of the most significant readiness

issues for the Marine Corps. The countless hours spent by Marines in maintaining aging equipment directly impact their quality of life. This trend has been particularly manifested with MARFORRES major end items, such as, trucks, tanks, amphibious assault vehicles, howitzers, aircraft, and light armored vehicles. It is getting more difficult and costly to maintain these older items of equipment at the desired levels of operational readiness.

In an attempt to stem the tide of rising maintenance costs and improve equipment reliability, the Reserve component is participating in two Service Life Extension Programs: the AAV Reliability-Availability-Maintainability / Rebuild to Standard (RAM/RS) program and the LAV Service Life Extension Program (SLEP). The AAV RAM/RS program is currently underway and scheduled to be completed in FY 2002. This maintenance improvement program will help maintain the Reserve component's fleet of AAVs in the most cost-effective manner until they are replaced by the new AAAV. The Marine Corps will start receiving the AAAV in FY 2006 and will have full operational capability in FY 2016. The LAV SLEP is scheduled from FY 2002 – 2005 and will also help improve the capability and reliability of MARFORRES LAVs. The Marine Corps has taken maximum advantage of SLEPs, which marginally improve legacy systems but do not fulfill modernization needs.

e) Marine Corps Plan to Achieve Full Compatibility between AC and RC: The Marine Corps addresses all initial quantities, planned sustainability requirements, and modernization plans for the Total Force through a single AAO. Fielding to the Total Force simultaneously, within fiscal constraints, ensures tactical and logistical interoperability and compatibility are maintained. As discussed on page 3, the Marine Corps Reserve is upgrading its F/A-18As with ECP 583 to achieve operational and logistical commonality with F/A-18Cs in the Active component. Additionally, the Navy and the Marine Corps plans to participate in the USAF C-130 Avionics Upgrade Program for the KC-130T to comply with new and emerging worldwide airspace requirements and ensure that the aircraft can operate in the joint environment.

f) Other Marine Corps Specific Issues and Initiatives: The Marine Corps Reserve is an essential part of the Total Force, and is seamlessly integrated into the working groups that are developing plans, concepts, organization, and doctrine that will affect the Marine Corps into the 21st Century. Some emerging concepts and initiatives that will affect the Total Force are as follows:

(1) Marine Corps Strategy 21 (MCS 21): MCS 21 is the Marine Corps' axis of advance into the 21st century. It is by design a broad axis that will adapt to changes in the strategic environment. It provides the vision, goals, and aims to support the development of future combat capabilities. MCS 21 provides strategic guidance to the Active and Reserve Marines, sailors, and civilian personnel who will make America's Marines, win our Nation's battles, and create quality citizens by optimizing the Corps' operating forces, support and sustainment base, and unique capabilities; and capitalizing on innovation, experimentation, and technology.

Marine Corps Strategy 21

(2) Operational Maneuver from the Sea (OMFTS): OMFTS is applicable across the range of military operations, from major theater war to smaller scale contingencies. With the combined arms power of the MAGTF, it gives the Marine Corps a powerful forced-entry capability. OMFTS is a naval concept developed by the Marine Corps and executed in concert with the Navy. It is a new approach to littoral power projection in which the Marines apply the tenets of maneuver warfare in the context of amphibious operations. In OMFTS, Naval Expeditionary Forces focus on operational objectives using the sea as maneuver space. Through the use of sea-based precision logistics, fires, and command and control, MAGTFs ashore will be liberated from establishing large shore based logistics depots and providing rear area security to protect them. Several key platforms are required to bring the OMFTS concept to fruition: the MV-22 Osprey, the AAAV, and the already operational LCAC vehicle. Once introduced to service, the Short Takeoff and Vertical Landing JSF, the LW 155 Howitzer, and the HIMARS will provide fire support critical to the success of OMFTS.

Advance Amphibious Assault Vehicle (AAAV)

(3) Precision Logistics: Precision Logistics continues to embody the Marine Corps' commitment to enhancing MAGTF expeditionary and joint capabilities through the transformation of logistics. Its principal focus is on the critical logistics elements necessary to implement OMFTS. Through Precision Logistics, the Marine Corps can accurately size its supply inventories, reduce logistics response time and improve asset visibility. These logistical improvements have helped the Total Force achieve efficiencies in the supply chain management and materiel distribution.

(4) ATLASS II +: The Marine Corps is in the process of developing and testing a new logistics information system called Asset Tracking Logistics and Supply System (ATLASS) II +. ATLASS II + is the Marine Corps' planned future integrated supply, maintenance, and resource reporting system. It integrates mainframe maintenance supply systems into a tiered, client-server based system offering considerable improvements in asset visibility, reduced logistics response time and improved approach to stockage criteria. Currently, ATLASS II+ is being fielded to II MEF units, Camp Lejeune, NC. It is scheduled for fielding to the Reserve component in 3d Qtr of FY 2002.

(5) Modeling and Simulation: The Marine Corps is actively pursuing modeling, simulation and advance training devices to increase operational and training effectiveness. This approach, combined with new technology, will provide units with the capability to train and maintain combat proficiency and related skills at their home training center. This innovative approach will reduce expenditures of ammunition, lessen the wear and tear on equipment, and provide a variety of combat scenarios from tactical to strategic levels.

II. Marine Corps Reserve Component Overview

a) Current Status of the Reserve Component

(1) General Overview: The Reserve Component continues to be a "Relevant, Ready, and Efficient" force multiplier in the Marine Corps Total Force. MARFORRES units are prepared to augment and reinforce the Active force in time of war, national emergency or contingency operations, provide personnel and operational tempo relief for the Active forces in peacetime, and provide service to the community. As they have done in the past, they continue to make extraordinary contributions, both at home and abroad. A significant contributor to the Total Force, MARFORRES performs a variety of missions including providing civil affairs expertise in the Balkans, aviation support in Southwest Asia and logistics support in Central America. MARFORRES units also continue to participate in a variety of important exercises and deployments overseas such as in Norway, Romania, Egypt, Japan, Korea, Thailand and Australia.

As directed by the Commandant, the Marine Corps is aggressively pursuing ways to "fix artillery" after years of atrophy. To bring robustness back to artillery and enhance fire support in the MAGTF, the Marine Corps is currently testing the LW 155 Howitzer and will begin testing the HIMARS in FY 2002/03 timeframe. Two artillery battalions in MARFORRES will transition to HIMARS beginning in FY 2008, with the remaining battalions fielded with the new LW 155 Howitzers in FY 2004. Combined with the fielding of the Advanced Field Artillery Tactical Data System in FY 2001, MARFORRES can seamlessly integrate battlefield management and decision support systems to assist the commander in the planning, delivery and coordination of the MAGTF's supporting arms. Also, there is funding in the budget that is dedicated to the development of the Short-range Anti-Armor Weapon (Predator), which is a lightweight, disposable, main battle tank killer. The following sections outline the Reserve component's procurement plans and status of equipment.

(2) Status of Equipment

(a) Equipment On-Hand: The equipment the Reserve component maintains on hand consists of a T/A which is largely determined by training requirements, space limitations at the unit training sites, and staffing levels. The T/A is reviewed annually and is tailored to the quantity and type of equipment that can be adequately maintained and stored at Reserve training centers.

(b) Average Age of Major Items of Equipment: *Chart 1* and *Table 2* provides a summary of the average age of selected major items of equipment.

(c) Compatibility of Current Equipment with AC: See page 8.

(d) Maintenance Issues/ Programs: The maintenance of aging equipment remains one of the top priorities for MARFORRES. Sufficient funding must be programmed to sustain the materiel readiness and capability of these legacy systems. This section briefly reviews some

maintenance programs and initiatives that help maintain and improve the materiel readiness of the systems in the Reserve component.

1. Depot Maintenance: The Marine Corps Depot Maintenance Program enhances equipment readiness for both the Active and Reserve component. The Reserve component continues to be proactive in articulating their depot maintenance requirements through the annual Marine Corps Depot Maintenance Process. However, the Marine Corps is also experiencing a trend in rising maintenance costs due to more frequent breakdowns of aging equipment. Although the repairs of many In-stores assets are unfunded, the Reserve component continues to receive the equipment it needs to sustain training and meet operational requirements.

2. Intermediate Maintenance Initiatives: In order to mitigate increasing maintenance costs, MARFORRES has implemented better business practices by outsourcing and competitively bidding some of its 4th and 5th echelon maintenance repair requirements. Specifically, they have outsourced some M1A1 tank maintenance requirements to the Army's Anniston Depot in Alabama, and have outsourced their diesel engine remanufacture to UNICOR in Beaumont, Texas. These outsourcing practices produced considerable savings and a faster turn-around time, resulting in increased readiness. Another on-going initiative is the utilization of Active component repair facilities located at Camp Lejeune, NC; Camp Pendleton, CA; and Blount Island Command, Jacksonville, FL. The additional repair capacity is helping the Maintenance Battalion, MARFORRES, to meet work requirements of its geographically dispersed units. Furthermore, maintenance agreements with Active component repair facilities reduce the costs associated with repair contact team travel expenses and transportation costs associated with the movement of deadlined equipment.

3. Corrosion Control: One of the key components in achieving an effective preventive maintenance program is a consistent corrosion control and coating program. Proper corrosion control and coating extend the life of ground equipment resulting in reduced costs associated with corrosion damage. Programmed funding in FY 2001 ($600K) will help MARFORRES initiate coating and other corrosion control programs for units holding principal end items. Sustained and consistent funding in the FYDP is critical in order for the corrosion control programs to be effective.

4. Individual Dehumidification Systems: To enhance the material readiness of its armored vehicle assets, MARFORRES is procuring individual dehumidification systems that help maintain the ideal ambient humidity environment within the vehicles. These systems will prevent the detrimental effects of moisture intrusion on sophisticated and expensive electrical components and secondary reparables. The goal to purchase enough systems to outfit all MARFORRES mechanized and armored vehicles was achieved by using NGREA funding. The unit cost of these systems is relatively low and offers a substantial rate of return through cost avoidance due to corrosion damage.

5. Automated Contact Team Requests: Using Lotus Notes, MARFORRES developed an interactive database that allows units from the intermediate maintenance activity (IMA) repair equipment having defects higher than the unit's authorized level of maintenance.

At the IMA, an analysis is performed to determine the appropriate course of action: send a maintenance contact team; outsource the repair; ship the end item to a 4th Maintenance Battalion site; or recommend that the unit request an increased echelon of repair and effect the repairs internally. This process also allows units to check on-line the status of request. The process is having a positive effect on reducing repair cycle time in MARFORRES.

(e) Modernization Programs and Shortfalls: See page 3-3.

(f) Overall Equipment Readiness: Our expeditionary character is synonymous with the word "readiness." Readiness has a special significance for the Marine Corps Reserve. Over 98 percent of all MARFORRES units are included in the current operational plans and deploy relatively early in the Time Phased Force Deployment List. MARFORRES units are ready to execute their assigned mission but must continue to modernize to sustain future readiness.

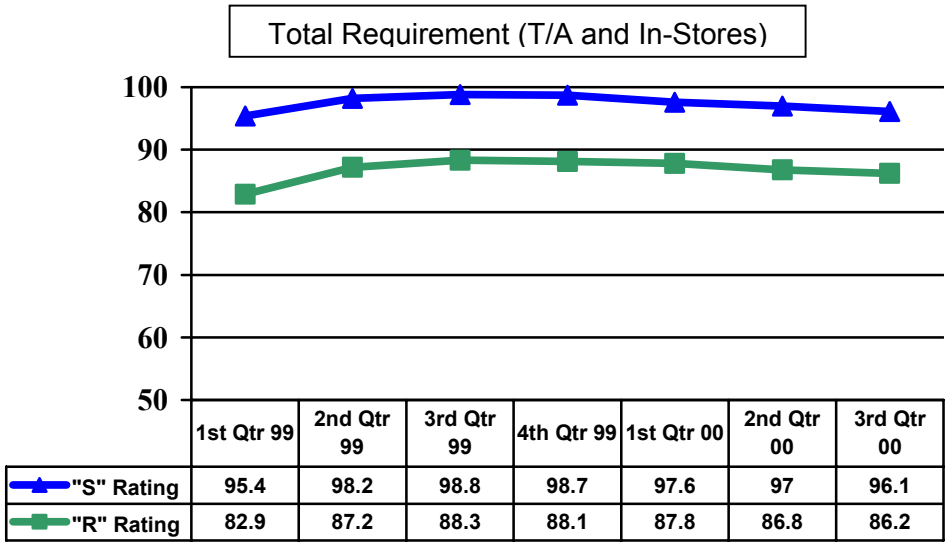
The readiness percentages above reflect the operational condition and availability of the Reserve's reportable ground requirement. This requirement consists of the T/A and In-stores assets held at MARCORLOGBASES. The condition of the MARFORRES T/A is typically maintained in a high readiness condition while the operational readiness of the In-stores assets is lower. Lower In-stores equipment readiness is due to a combination of the age of legacy equipment, impact of past funding shortfalls, and the lower priority of funding for the maintenance of In-stores assets. It is getting more difficult and costly to maintain these systems at the desired levels of operational readiness.

Originating from the OSD/RA's Reserve Unit Priority System, Marine Corps Readiness Equipment Module–Reserves (MCREM-R) was developed by Headquarters, Marine Corps in conjunction with the Logistics Management Institute to provide OSD mandated Reserve readiness reports. The MCREM-R process assists MARFORRES in calculating the equipment ratings for the Reserve Table of Equipment and facilitates the application of the In-Stores assets, which provides better visibility of readiness and in-stores equipment. In addition to improving and assisting with ground equipment readiness reporting, this tool enables materiel readiness managers to "dig down" and analyze the causes and reasons why their equipment is deadlined.

Equipment readiness on the aviation side is a cause for concern. The statistics that represent data for all Marine Corps aircraft show a declining level of readiness. Since 1995 the full mission capable rate, though still within acceptable parameters, has decreased by 9.4 percent across the force. During the same period, cannibalization rates have increased 58 percent and direct maintenance man-hours per hour of flight have increased 33 percent. The end result is our Marines having to work harder and units operating at reduced margins of safety. Until the gap between the cost of an aging fleet and the requirement for modernization is addressed with resources, the Reserve component will continue to realize exponential increases in the levels and frequency of maintenance necessary to achieve acceptable levels of equipment readiness. Meeting these requirements is critical. In most cases, the Reserve component will operate legacy systems longer than the Regular component.

b) Changes Since Last NGRER: Due to the age of legacy systems and resource constraints, readiness of ground and aviation systems has decreased slightly (see *Chart 4*). The hours spent by Marines in maintaining the aging equipment have also increased, directly impacting their quality of life. The Marine Corps is at the point where failure to rectify modernization shortfalls can no longer be ignored.

Chart 4



	1st Qtr 99	2nd Qtr 99	3rd Qtr 99	4th Qtr 99	1st Qtr 00	2nd Qtr 00	3rd Qtr 00
"S" Rating	95.4	98.2	98.8	98.7	97.6	97	96.1
"R" Rating	82.9	87.2	88.3	88.1	87.8	86.8	86.2

Note: This graph depicts the MARFORRES average ground equipment ratings for the past two fiscal years. MARFORRES units are ready to execute their assigned missions but must modernize to overcome the challenges due to the age of "legacy" equipment. The "S" rating shows the quantity of equipment and the "R" rating depicts the condition of that equipment.

c) Future Years Program (FY 2002-FY 2004): MCS 21 combined with Operational Maneuver from the Sea continue to be the Marine Corps' blueprints for equipment requirements to enhance its warfighting capability. The Marine Corps is constantly developing its warfighting capability through the continuous development of new tactics, doctrine, and equipment. If funding were available, the Marine Corps Reserve could benefit from the revolutionary MV-22 Osprey tilt rotor aircraft. The MV-22 is a critical element in Marine Corps modernization to achieve required 21st Century capabilities. Procurement of the MV-22 for the Reserve will provide equipment for the Marine Corps to create Reserve structure that will provide opportunities MV-22 qualified Marines in the second half of this decade. Current fielding of the MV-22 will not enable creation of this structure until well after 2010 while MV-22 qualified Marines will begin separating in the 2005 timeframe. This over 5-year lag will deny full use of the expertise of the separating MV-22 aviators and mechanics in the Marine Corps Reserve during that period. Consequently, the Marine Corps would lose the opportunity to continue to reap the investments it has made in these Marines' training; the Reserve would not be able to establish a reservoir of MV-22 experience in preparation for full fielding; and additional transition training costs for the Reserve would likely be incurred.

Along with LCAC and the AAAV, the MV-22 will allow the realization of the capabilities required for future MAGTF operations. The Marine Corps is also prepared, with available

funding, to further the capabilities of the Reserve ground combat element by fielding a new generation of modern ground equipment to include the LW 155 Howitzer. Furthermore, the Marine Corps is ready to improve its Reserve combat service support element with systems like the MTV and Improved Recovery Vehicle (M88A-2).

Another rapidly emerging need involves an avionics upgrade to the Marine Corps fleet of 13 F-5E/F's. These aircraft are operated by a Marine Corps Reserve squadron and are chartered to provide training and readiness mandated adversary training to Marine Aviation Weapons and Tactics Squadron-1, F/A-18 Fleet Replacement Squadrons, and the Operating Forces. The F-5 is an old airframe: the "E" is nearing 28 years of age while the "F" is nearing 25 years. Alternative adversary replacement aircraft have been considered, most notably the F-16. While the Navy will take delivery of 14 F-16s in FY 2002 to serve in the aggressor role, funding limitations will more than likely preclude the procurement of additional F-16s to replace the Marine Corps' F-5s.

Since the F-5 is slated to operate through 2015, all DON F-5s are undergoing a structural upgrade to ensure the aircraft can operate safely. With the viability of the basic airframe addressed, attention has shifted towards enhancing the aircraft's avionics. The centerpiece of this initiative is upgraded radar -- the APG-66. Funding this program will allow for an avionics and weapons upgrade, which was endorsed by the Adversary Operator Advisory Group.

(1) FY 2004 Equipment Requirements: As mentioned in the previous pages, several key platforms in each element of the MAGTF are required to bring the OMFTS concept to fruition. In the aviation combat element, the following aviation programs must receive funding: MV-22 Osprey accelerated fielding; F/A-18A upgrade with ECP-583; KC-130T Avionics Modernization Program; and the completion of the CH-53E HNVS upgrade. In the ground combat element, acquisition and accelerated fielding of major systems such as the HIMARS, LW 155 Howitzer, and MTVR to replace the aging equipment in the current inventory is essential to the Reserve component's readiness.

MV-22 Osprey and Lightweight 155 Howitzer

(2) Anticipated New Equipment Procurements: The following new equipment procurements are required to modernize and enhance the Reserve component's combat capabilities in future operations: MV-22 Osprey Helicopter and AAAV. A new generation of modern equipment to include the MTVR, HIMARS and LW 155 is required to enhance the Reserve ground component's firepower in the future battlefields. These programs will provide a tremendous improvement in MARFORRES units' capability to project power ashore and operate in the joint environment.

(3) Anticipated Transfers from AC to RC: The UC-35 Cessna Citation loaned to the Active component in Feb 2000 is expected to be returned to the Marine Corps Reserve in Aug 01. This is in accordance with the aircraft replacement plan previously approved by the Deputy Secretary of Defense.

(4) Anticipated Withdrawals from RC Inventory: The Marine Corps plans to relocate a C-20G Gulfsteam IV aircraft formerly operated by the Marine Corps Reserve at NAF, Washington, DC, to MCAF, Kaneohe Bay, HI, in Jun 2001. The aircraft was removed from operational service in Feb 1998 and has been undergoing extensive repairs since Aug 1999. Relocating this Operational Support Airlift category aircraft in the Pacific theater results in more effective and responsive support to the Operating Foces. Custody and operation of the aircraft will transfer to the Active component.

(5) Equipment shortages and Modernization Shortfalls at the end of FY 2004: The key platforms—MV-22, AAAV, HIMARS, and LW 155—are critical elements in the Reserve component's efforts to modernize and significantly improve its level of readiness. Programs to upgrade the Reserve component's aviation systems—ECP 583, CH-53E HNVS, and KC-130T AMP—are required to remain compatible with the Active component and to meet the minimum requirements for MAGTF and joint operations. Accelerating the pace of modernization is absolutely essential to the readiness and to the timely improvement of the Reserve component warfighting capability.

HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)

d) Remaining Shortfalls and Unfunded Requirements: The Marine Corps has a large unfunded priority that addresses critical elements across the MAGTF, especially in ground equipment and aviation modernization. While future funding projections clearly indicate improving trends, there is a great concern on the pace of modernization. Funding the unfunded requirements would dramatically enhance the level of readiness and capabilities of all five elements of the MAGTF. The Marine Corps Reserve component provides an unfunded critical equipment shortage list each year to OSD/RA for submission to Congress (Title 10, USC Section 10543). This is the process that is used to ensure that Congress is aware of each of the Components equipment shortages. A short synopsis of the Marine Corps Reserves latest shortfall list for FY 2001 is shown in *Table 8*.

e) Summary/Conclusions: The Marine Corps Reserve is an essential part of the Marine Corps Total Force and continues to be "Relevant, Ready, and Efficient." Modernization of the Reserve component must parallel the modernization of the Active component to ensure that the Total Force is ready to fight and win tomorrow's battles. The Marine Corps Reserve is ready today, but its readiness has come at the expense of investment in modernization, infrastructure, and quality of life accounts. The Marines in the Reserve component are working hard to maintain and improve the materiel readiness of their equipment. However, the key to sustain the Reserve readiness in the long term is to continue to replace the current legacy systems. The funding level must be sufficient to accelerate the pace of modernization in order to shorten the period of increased expense for sustainment of the aging legacy systems. The outlook for resourcing and long-term readiness is improving as the Marine Corps Reserve component transitions into the 21st Century. The Marine Corps Reserve remains an integral part of the Marine Corps Total Force: organized, trained and equipped to seamlessly augment and reinforce the Regular component to "Make Marines, Win Battles, and Create Quality Citizens."

USMCR
Consolidated Major Item Inventory and Requirements

Table 1

NOTE: This table provides a comprehensive list of selected major items of equipment. It provides the quantity on-hand (QTY O/H) projected to be in the inventory at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) needed to meet full wartime requirements of the Reserve component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment which should be in the inventory of each Reserve component.

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
AIRBORNE MOBILE DIRECT AIR SUPT CNTRL	A0010	684,949	2	2	2	2	**2**
COMM GEAR	A0011	70,000	146	146	146	146	**172**
RADIO SET, AN/TYQ-101	A0021	194,500	1	1	1	1	**1**
COMMUNICATIONS PLATFORM, AIR DEFENSE	A0025	430,456	1	1	1	1	**2**
AUTO TELEPHONE AN/TTC-42(V)	A0248	917,671	10	10	10	10	**10**
COMMUNICATIONS CENTRAL (MECCS)	A0274	500,000	4	4	4	4	**4**
COMMUNICATIONS TECH CTRL CENTER	A0311	185,934	5	5	5	5	**5**
DECODER GROUP	A0465	29,837	9	9	9	9	**9**
SATELLITE COMMUNICATIONS CENTRAL	A0655	425,000	3	3	3	3	**3**
GROUND MOBILE FORCE SATELLITE COM TERMINAL	A0812	1,000,000	1	1	1	1	**1**
COMMUNICATIONS TERMINAL, AN/TSC-93B	A0814	537,000	6	6	6	6	**6**
RADIO SET, AN/TSQ-207	A0821	540,000	2	2	2	2	**2**
INTERROGATOR SET	A0881	32,447	12	12	12	12	**12**
TACTICAL DEFENSE ALERT, RADAR SET	A0891	245,000	13	13	13	13	**13**
MANPACK SATELLITE COMMUNICATIONS TERMINAL	A0917	36,721	18	18	18	18	**18**
AN/PSC-5, MANPACK SATELLITE COMM TERMINAL	A0918	48,000	46	46	46	46	**91**
QUICK REACTION SATELLITE ANTENNA	A1310	225,000	3	3	3	3	**3**
RADAR SET, FIREFINDER	A1440	6,500,000	5	5	5	5	**5**
RADAR SET, LTWT AIR TRAFFIC CONTROL, AN/TPS-63B	A1500	3,865,675	4	4	4	4	**4**
RADAR SET, LIGHTWEIGHT 3D	A1503	26,500,000	2	2	2	2	**2**
COMM GEAR	A1530	48,800	60	60	60	60	**60**
RADIO SET, AN/GRC-193B (V)	A1795	53,690	68	68	68	68	**68**
RADIO SET, AN/GRC-171B	A1818	41,999	82	82	82	82	**82**
RADIO SET, AN/MRC-140	A1920	82,181	2	2	2	2	**2**
RADIO SET, AN/MRC-138B(V)	A1935	78,500	262	262	262	262	**262**
RADIO TERMINAL SET, AN/MRC-142	A1955	201,851	64	64	64	64	**64**
RADIO SET, AN/MRC-145	A1957	95,840	306	306	306	306	**357**
RADIO SET, AN/PRC-104 B(V)	A2065	20,000	717	717	717	717	**717**
RADIO SET, UHF, AN/PRC-113(V)3	A2069	8,529	383	383	383	383	**383**
RADIO SET, MANPACK, AN/PRC-119A	A2070	10,370	1,532	1,532	1,532	1,532	**1,532**
RADIO SET, VEHICULAR, AN/VRC-88D	A2074	11,475	399	399	399	399	**466**
RADIO SET, VEHICULAR, AN/VRC-89D	A2075	18,155	38	38	38	38	**38**
RADIO SET, VEHICULAR, AN/VRC-90D	A2076	12,000	13	13	13	13	**14**
RADIO SET, VEHICULAR, AN/VRC-91D	A2077	18,680	48	48	48	48	**48**
RADIO SET, VEHICULAR, AN/VRC-92D	A2078	20,920	33	33	33	33	**33**
RADIO SET, AN/PRC-119F	A2079	4,422	377	377	377	377	**648**
RADIO SET, AN/VRC-83(V)2	A2164	18,360	120	120	120	120	**120**
RADIO SET, VEHICULAR, AN/VRC-88A	A2167	12,832	443	443	443	443	**530**
RADIO SET, VEHICULAR, AN/VRC-89A	A2168	17,500	73	73	73	73	**73**
RADIO SET, VEHICULAR, AN/VRC-90A	A2169	11,079	54	54	54	54	**160**
RADIO TERMINAL, DIGITAL TROPOSCATTER	A2179	672,120	24	24	24	24	**24**
SWITCHBOARD, TELEPHONE, AUTOMATIC, SB-3614	A2505	46,696	75	75	75	75	**75**
SWITCHING UNIT, TELEPHONE, AUTOMATIC, SB-3865	A2508	228,535	65	65	65	65	**65**
TACTICAL AIR OPERATIONS MODULE (TAOM)	A2525	4,946,240	8	8	8	8	**8**
INTERFACE SYSTEM, COMMUNICATIONS	A3270	226,660	3	3	3	3	**3**
AIR CONDITIONER, MCS HORIZONTAL, 60HZ 9,000 BTU	B0001	4,200	48	48	48	48	**48**
AIR CONDITIONER, MCS HORIZONTAL, 60HZ 18,000 BT	B0002	5,356	65	65	65	65	**65**
AIR CONDITIONER, MCS VERTICAL, 60,000 BTU	B0007	11,000	24	24	24	24	**24**
AIR CONDITIONER, MCS, SKID MOUNTED	B0011	3,998	61	61	61	61	**61**
AIR CONDITIONER, VERTICAL, 60/400HZ, 18,000 BTU	B0012	5,600	250	250	250	250	**250**
BOAT, BRIDGE ERECTION	B0114	170,000	18	18	18	18	**18**

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Consolidated Major Item Inventory and Requirements

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
AIRBORNE MOBILE DIRECT AIR SUPT CNTRL	A0010	684,949	2	2	2	2	**2**
BRIDGE ERECTION SET -MGB-	B0120	640,000	8	8	8	8	**8**
BRIDGE, MEDIUM GIRDER, DRY GAP	B0152	1,200,000	12	12	12	12	**12**
CONTAINER HANDLER, ROUGH TERRAIN, 50,000 LB	B0391	350,000	17	17	17	17	**23**
CRANE, HIGH SPEED, HIGH MOB, W/PILE DRIVER CAP	B0443	230,000	34	34	34	34	**34**
CRANE, ROUGH TERRAIN, HYDRAULIC LIGHT	B0446	85,000	49	49	49	49	**49**
FUEL DISP. SYS TACTICAL AIRFIELD FIRESTONE	B0675	386,481	20	20	20	20	**20**
GENERATOR SET, 3 KW, 60 HZ, SKID-MOUNTED	B0730	4,042	303	303	303	303	**303**
GENERATOR SET, SKID-MTD, TACT QUIET, 10 KW 60 H	B0891	11,450	345	345	345	345	**345**
GENERATOR SET, SKID-MTD, TACT QUIET, 10 KW 400	B0921	14,520	12	12	12	12	**12**
GENERATOR SET, SKID-MTD, TACT QUIET, 30 KW 60 H	B0953	14,200	252	252	252	252	**252**
GENERATOR SET, SKID-MTD, TACT QUIET, 30 KW 400	B0971	16,080	8	8	8	8	**8**
GENERATOR SET, SKID-MTD, TACT QUIET, 60 KW 400	B1016	20,086	16	16	16	16	**16**
GENERATOR SET, SKID-MTD, TACT QUIET, 60 KW 60 H	B1021	16,319	148	148	148	148	**148**
GENERATOR SET, 100 KW, 60 HZ, SKID MOUNTED	B1045	39,960	46	46	46	46	**46**
GRADER, ROAD, MOTORIZED	B1082	190,000	22	22	22	22	**22**
HELICOPTER EXPEDIENT REFUELING SYSTEM	B1135	112,049	18	18	18	18	**18**
LIGHTWEIGHT DECONTAMINATING SYSTEM	B1291	16,283	268	268	268	268	**268**
LINE CHARGE LAUNCH KIT, TRAILER MOUNTED	B1298	3,945	50	50	50	50	**50**
PUMP MODULE, FUEL (SIXCON)	B1580	41,000	133	133	133	133	**133**
REFRIGERATION UNIT, F/RIGID BOX	B1645	600,000	122	122	122	122	**128**
SCRAPER-TRACTOR, WHEELED	B1922	257,000	20	20	20	20	**20**
STORAGE TANK MODULE, FUEL (SIXCON)	B2085	10,100	401	401	401	401	**401**
TRACTOR, FULL TRACKED, W/ANGLE BLADE	B2460	95,000	31	31	31	31	**31**
TRACTOR, MEDIUM, FULL TRACKED, D7G CATERP	B2462	192,500	58	58	58	58	**58**
TRACTOR, ALL WHEEL DRIVE W/ATTACHMENTS	B2482	129,000	31	31	31	31	**31**
TRUCK, FORKLIFT, EXTENDABLE BOOM	B2561	112,770	105	105	105	105	**105**
TRUCK, FORKLIFT, ROUGH TERRAIN, 4,000 LB	B2566	45,000	105	105	105	105	**105**
TRACTOR, ROUGH TERRAIN, ARTICULATED STEER	B2567	135,000	111	111	111	111	**111**
WATER PURIFICATION UNIT - REVERSE OSMOSIS	B2604	262,000	69	69	69	69	**69**
CONTAINER, QUADRUPLE	C4433	2,007	4,311	4,311	4,311	4,311	**5,562**
TRUCK, 7-TON CARGO 6x6 MTVR	D0198	133,900	0	0	0	1,198	**1,198**
POWER UNIT, FRONT, 12 1/2 TON, 4X4	D0209	180,000	312	312	312	312	**312**
SEMI-TRAILER, REFUELER, 5,000 GAL, 4-WHEEL	D0215	98,064	60	60	60	60	**60**
SEMI-TRAILER, LOWBED, 40 TON	D0235	22,947	58	58	58	58	**58**
TRLR, POWERED, 22 1/2 T, CONTAINER HAULER, 4X4	D0876	72,837	233	233	233	233	**233**
TRAILER, POWERED, WRECKER/RECOVERY, 4X4	D0877	205,342	22	22	22	22	**22**
TRLR, 5TH-WHL 4X4, SEMI-TRLR ADAPTER	D0878	88,801	60	60	60	60	**60**
TRLR, 20 TON 4X4 CARGO W/CRANE	D0879	134,794	65	65	65	65	**65**
TRAILER, TANK, WATER, 400 GAL, 1 1/2 TON 2-WHL	D0880	7,089	282	282	282	282	**282**
TRAILER, RIBBON BRIDGE	D0881	56,000	100	100	100	100	**100**
TRUCK, AMB, 4 LITTER ARMD, 1 1/4 TON HMMWV	D1001	126,181	97	97	97	97	**97**
TRUCK, AMB, 2 LITTER, SOFT TOP, 1 1/4 TON HMMWV	D1002	55,900	51	51	51	51	**51**
TRUCK, CARGO, 5 TON, 6X6, W/O WINCH	D1059	155,000	1,077	1,077	1,077	1,077	**1,077**
TRK CARGO, 5T EXTRA LONG WHL BASE, W/WINCH	D1061	157,000	97	97	97	97	**97**
TRK AIRCRAFT CRASH & STRUCTURE FIRE FIGHTING	D1064	240,000	24	24	24	24	**24**
TRK DUMP M817/M929/M930	D1072	185,000	86	86	86	86	**86**
TRK, TOW CARRIER, W/SA, 1 1/4T, W/EQUIP, HMMWV	D1125	65,399	196	196	196	196	**196**
TRUCK, TRACTOR, 5 TON, 6X6, W/O WINCH	D1134	160,000	61	61	61	61	**61**
TRK, UTIL, CARGO, 5/4 T W/EQUIP HMMWV	D1158	55,000	1,867	1,867	1,867	1,867	**1,867**
TRK, UTIL, ARMT CARR, W/SA 1 1/4T W/EQUIP HMMWV	D1159	63,531	304	304	304	304	**304**
TRUCK, UTILITY, SHELTER CARRIER, W/OW, 1 1/4T	D1180	50,778	40	40	40	40	**40**
TRUCK, WRECKER, 5 TON, 6X6	D1212	280,000	60	60	60	60	**60**
BOTTLE CLEANING/CHARGING STATION (BCCS)	E0145	378,983	2	2	2	2	**2**
BRIDGE, SCISSOR F/ AVLB	E0149	200,000	12	12	12	12	**12**
BRIDGE, ARMORED VEHICLE LAUNCHED	E0150	592,545	8	8	8	8	**8**

USMCR

Table 1

Consolidated Major Item Inventory and Requirements

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
AIRBORNE MOBILE DIRECT AIR SUPT CNTRL	A0010	684,949	2	2	2	2	**2**
CHARGER, BATTERY	E0167	4,941	41	41	41	41	**41**
CIRCLE, AIMING	E0180	2,612	145	145	145	145	**145**
JAVELIN	E0207	126,824	0	72	72	72	**72**
EQUIPMENT SET, NIGHT VISION	E0330	54,000	216	216	216	216	**216**
HOWITZER, MEDIUM, TOWED, 155MM	E0665	750,000	90	90	90	90	**90**
INTERROGATOR SET, PROGRAMMER (STINGER)	E0726	19,121	18	18	18	18	**18**
INTERROGATOR SET, IFF (STINGER)	E0727	18,115	180	180	180	180	**180**
ASSAULT AMPHIBIOUS VEHICLE, COMMAND	E0796	1,052,515	10	10	10	10	**10**
ASSAULT AMPHIBIOUS VEHICLE, PERSONNEL	E0846	2,150,000	103	103	103	103	**103**
ASSAULT AMPHIBIOUS VEHICLE, RECOVERY	E0856	1,159,043	8	8	8	8	**8**
LAUNCHER, ASSAULT ROCKET, 83MM (SMAW)	E0915	10,299	234	234	234	234	**234**
LAUNCHER, TUBULAR, F/GM TOW WEAPON SYSTEM	E0935	73,536	214	214	214	214	**214**
LAV, ANTI-TANK	E0942	1,352,000	16	16	16	16	**16**
LAV, COMMAND AND CONTROL (BN)	E0946	868,000	8	8	8	8	**8**
LAV, LIGHT ASSAULT, 25MM	E0947	906,000	60	60	60	60	**60**
LAV, LOGISTICS	E0948	825,000	16	16	16	16	**16**
LAV, MORTAR	E0949	1,918,000	8	8	8	8	**8**
LAV, MAINTENANCE/RECOVERY	E0950	488,972	6	6	6	6	**6**
MACHINE GUN, CAL .50, BROWNING, HB FLEXIBLE	E0980	14,002	496	496	496	496	**496**
MACHINE GUN, MEDIUM, 7.62MM, GROUND VERSION	E0989	8,000	834	834	834	834	**834**
MACHINE GUN, 40MM	E0994	14,581	497	497	497	497	**497**
ORDINANCE	E1035	520,000	5	5	5	5	**5**
MODULAR UNIVERSAL LASER EQUIPMENT (MULE)	E1045	500,032	137	137	137	137	**137**
MORTAR, 60MM LWCMS	E1065	10,658	81	81	81	81	**81**
MORTAR, MEDIUM, EXTENDED RANGE	E1095	24,717	80	80	80	80	**80**
MUZZLE VELOCITY SYSTEM (M94)	E1145	14,500	32	32	32	32	**32**
NIGHT VISION SIGHT, TRACKER, INFRARED	E1153	62,821	108	108	108	108	**108**
NIGHT VISION SIGHT, CREW SERVED WEAPON	E1159	24,900	426	426	426	426	**426**
POSITION AZIMUTH DETERMINATION SYS(PADS)	E1210	417,826	21	21	21	21	**21**
RECOVERY VEH FULL TRACK M88	E1377	758,913	13	13	13	13	**13**
RIFLE, SNIPER, 7.62MM, W/O EQUIPMENT	E1460	1,744	99	99	99	99	**99**
RIFLE, SNIPER, SEMI-AUTO, CAL .50, REPEATER	E1475	6,405	36	36	36	36	**36**
PEDESTAL MOUNTED STINGER (AVENGER)	E1836	1,059,000	60	60	60	60	**60**
RECEIVER, INFRARED	E1837	24,068	109	109	109	109	**109**
TANK, COMBAT, FT, 120MM GUN	E1888	4,300,000	64	64	64	64	**64**
TEST KIT, SUPPLEMENTAL GMS EQUIPMENT	E1908	157,229	2	2	2	2	**2**
TEST SET, MISSILE GUIDANCE	E1911	20,366	36	36	36	36	**36**
TEST SET, GM	E1912	393,562	21	21	21	21	**36**
TEST SET, GUIDED MISSILE, INFRARED TRACKER	E1915	109,243	8	8	8	8	**8**
TEST SET, GM SYSTEM (DRAGON)	E1916	331,844	4	4	4	4	**4**
TEST SET GROUP, GM INFRARED TRACKER	E1917	35,928	4	4	4	4	**4**
TEST SET, NIGHT VISION	E1947	27,000	2	2	2	2	**6**
TRACKER, INFRARED, GM, DRAGON	E3175	13,039	56	56	56	56	**56**
AIRCRAFT,HELICOPTER, UTILITY, UH-1N *("N" refers to "series)*	UH-1N	5,332,000	20	20	20	20	**20**
AIRCRAFT,HELICOPTER, CARGO, CH-53E	CH-53E	30,182,000	21	21	21	21	**21**
AIRCRAFT,HELICOPTER, ATTACK, AH-1W	AH-1W	15,147,000	40	40	40	40	**40**
AIRCRAFT,HELICOPTER, CARGO, CH-46E	CH-46E	10,913,000	26	26	26	26	**26**
AIRCRAFT, REFUELING/CARGO, KC-130T	KC-130T	33,420,000	28	28	28	28	**28**
AIRCRAFT, UTILITY CARGO, UC-12B	UC-12B	3,341,000	3	3	3	3	**3**
AIRCRAFT,FIGHTER/ATTACK,F/A-18A	F/A-18A	41,605,000	48	48	48	48	**48**
AIRCRAFT, FIGHTER, F-5E	F-5E	7,865,000	12	12	12	12	**12**
AIRCRAFT, FIGHTER, F-5F	F-5F	11,520,000	1	1	1	1	**1**
AIRCRAFT, UTILITY CARGO, C-20G (Delete. Trans to AC FY01)	C-20G	37,465,000	1	1	1	1	**1**
AIRCRAFT, UTILITY CARGO, UC-35C	UC-35C	7,700,000	3	3	3	3	**3**

USMCR
Average Age of Equipment

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for fiscal year (FY) 2002.

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
RADIO SET MRC-138B	A1935	21	
RADIO TERMINAL AN/TRC-170	A2179	10	
CRANE MOUNTED TRUCK	B0443	13.5	
GENERATOR SET, 100KW	B1045	26	
WATER PURIFICATION UNIT - REVERSE OSMOSIS	B2604	18	Being replaced with the EROWPU
AIRCRAFT REFUELER	D0215	16	2/3 of equipment will be 27 yrs old. Remaining 1/3 will be 8 yrs old by 2002.
TRUCK, LVS	D0209	16	
TRUCK, 5TON	D1059	19	Being replaced with the Medium Tactical Vehicle (MTVR)
TRUCK, HMMWV	D1158	14	Being replaced with the HMMWVA2
HOWITZER, MEDIUM, TOWED 155MM	E0665	18	Being replaced with the Lightweight 155MM Howitzer (LW155)
ASSAULT AMPHIBIOUS VEHICLE, PERSONNEL	E0846	28	Being replaced with the AAAV, RAMRS program will help improve fleet reliability (FY99-02), Last Service Life Extention Program (SLEP) occurred between 1982-1986.
LAV, LIGHT ASSAULT VEHICLE, 25MM	E0947	15	SLEP scheduled to occur between FY02-05
RECOVERY VEHICLE FULL TRACK, M88	E1377	21.5	Being replaced by the M88A2 (Improved Recovery Vehicle)
TANK, COMBAT, 120MM	E1888	11	
AIRCRAFT, HELICOPTER, UTILITY, UH-1N	UH-1N	30	
AIRCRAFT, HELICOPTER, CARGO, CH-53E	CH-53E	13	Nine aircraft are on average 18 years old, the other three were new as of FY00.
AIRCRAFT, HELICOPTER, ATTACK, AH-1W	AH-1W	8	
AIRCRAFT, HELICOPTER, CARGO, CH-46E	CH-46E	34	
AIRCRAFT, REFUELING/CARGO, KC-130T	KC-130T	15	
AIRCRAFT, UTILITY CARGO, UC-12B	UC-12B	20	
AIRCRAFT, FIGHTER/ATTACK, F/A-18A	F/A-18A	17	
AIRCRAFT, FIGHTER, F-5E	F-5E	28	
AIRCRAFT, FIGHTER, F-5F	F-5F	25	
AIRCRAFT, UTILITY CARGO, C-20G	C-20G	8	
AIRCRAFT, UTILITY CARGO, UC-35C	UC-35C	3	

USMCR
Service Planned Procurements (P-1R Data)

NOTE: This table identifies the dollar-value of equipment programmed to be procured with Service procurment funds as identified in the P-1R exhibit of the President's budget. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; eg. items procured in FY 03 would be expected to arrive in RC inventories in FY 04 or FY 05.

NOMENCLATURE	*FY 2002*	*FY 2003*	*FY 2004*	*REMARKS*
AAV7A1 PIP	11,100,000	200,000	500,000	
LAV PIP			6,400,000	
IMPROVED RECOVERY VEHICLE (IRV)	6,300,000	22,300,000	600,000	
MODIFICATION KITS (TRKD VEH)	600,000	3,300,000	500,000	
HIMARS		7,800,000		
155MM LIGHTWEIGHT TOWED HOWITZER		17,300,000	25,600,000	
MOD KITS (ARTILLERY)	400,000	300,000	300,000	
MARINE ENHANCEMENT PROGRAM	300,000	600,000	600,000	
PREDATOR (SRAW)	200,000			
GENERAL PURPOSE ELECTRONIC TEST EQUIP.	1,300,000	1,400,000	1,400,000	
INTELLIGENCE SUPPORT EQUIPMENT		300,000		
MOD KITS (INTEL)	300,000	300,000	300,000	
GENERAL PURPOSE MECHANICAL TMDE	800,000	800,000	800,000	
ITEMS UNDER $5 MILLION (COMM & ELEC)	1,000,000	1,400,000	1,600,000	
COMMAND POST SYSTEMS	400,000		100,000	
RADIO SYSTEMS	38,700,000	100,000		
MOD KITS MAGTF C41	1,100,000	900,000	1,000,000	
AIR OPERATIONS C2 SYSTEMS	700,000	200,000	1,700,000	
INTELLIGENCE C2 SYSTEMS	200,000	1,900,000	600,000	
MEDIUM TACTICAL VEHICLE REPLACEMENT		181,700,000		
ITEMS LESS THAN $5 MILLION	200,000	200,000	200,000	
ENVIRONMENTAL CONTROL EQUIP ASSORT	300,000	300,000	300,000	
BULK LIQUID EQUIPMENT	800,000	1,500,000	1,500,000	
TACTICAL FUEL SYSTEMS	400,000	300,000	800,000	
POWER EQUIPMENT ASSORTED	800,000	700,000	1,000,000	
MATERIAL HANDLING EQUIP	3,500,000	8,500,000	6,900,000	
FIELD MEDICAL EQUIPMENT	500,000	800,000		
TRAINING DEVICES	4,900,000	5,600,000	1,600,000	
CONTAINER FAMILY	1,200,000	1,200,000	1,300,000	
FAMILY OF CONSTRUCTION EQUIPMENT	1,500,000	3,200,000	1,900,000	
FAMILY OF INTERNALLY TRANSPORTABLE VEH (ITV)			2,100,000	
ITEMS LESS THAN $5 MILLION	200,000	200,000	300,000	
TOTAL	**$77,700,000**	**$263,300,000**	**$59,900,000**	
# The above figures do not include ammunition				

USMCR
National Guard and Reserve Equipment Appropriation (NGREA) Procurements

NOTE: This table identifies the dollar-value of equipment programmed to be procured with National Guard and Reserve Equipment Appropriations (NGREA). These funds are available for a three period from the year of appropriation. Deliveries of procured equipment normally take one to two years before they arrive in the inventory.

NOMENCLATURE	*FY 1999*	*FY 2000*	*FY 2001*	*REMARKS*
COMMON END USER COMPUTER EQUIPMENT	2,000,000	2,000,000		
ENGINEER CHANGE PROPOSAL 583, F/A-18A	18,000,000	17,896,533		
COMMON END USER COMPUTER			2,155,000	
CH-53E HNVS			1,815,000	
GCP-2A INFRARED LASER TGT MARKER			208,000	
MULTIPLEXOR AN/FCC-100			24,500	
QUAD CONTAINER			546,000	
SPECIAL APPLICATION SCOPED RIFLE (SASR)			216,000	
TOTAL	**$20,000,000**	**$19,896,533**	**$4,964,500**	

USMC
Expected Equipment Transfers and Withdrawals

NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transfers are commonly called "cascaded" equipment or equipment that is provided to the RC once the Active receives more modern equipment items. Although this table highlights a three-year period, many Services do not know exact quantities of transfers or withdrawals until year of execution due to the uncertainty of the procurement/delivery cycle of new equipment.

NOMENCLATURE	*EQUIP No.*	*FY 2001 QTY*	*FY 2002 QTY*	*FY 2003 QTY*	*REMARKS*
UC-35C Cessna Citation		1			See page 3-16
C-20G Gulfstream IV		1			See page 3-17

USMCR
FY 1998 Planned vs Actual Procurements and Transfers

NOTE: This table compares what the Services planned to procure and transfer to the Marine Corps Reserve in FY 1998 with actual procurements and transfers. Since the procurement cycle is normally one to two years from funding to delivery, this table identifies only what has been delivered through the end of FY 2000.

Nomenclature	*Equip No.*	*FY 98 Transfers*		*FY 98 Procurements*		*FY 98 NGREA*	
		Planned	*Actual*	*Planned*	*Actual*	*Planned*	*Actual*
AAVP7A1 RAM/RS	E0846			47	13		
LAV SLEP	E0947			135	0		
JAVELIN	E0207			72	0		
TRUCK, UTILITY, CARGO (HMMWVA2)	D1158			3819	313		
ENHANCED REFRIGERATOR UNIT, F/RIGID	B1645			118	21		
HELCOPTER, CH-53E						1	1
AIRCRAFT, REPLACEMENT, T-39						2	2
CH-53E HELICOPTER NIGHT VISION SYSTEM						4	0
ENGINEER CHANGE PROPOSAL 583, F/A-18A						4	2
FORWARD LOOKING INFRA-RED (FLIR) AN/AAS-38						6	6

USMC
Major Item of Equipment Substitution List

TABLE NOT APPLICABLE

USMCR
Significant Major Item Shortages

NOTE: This table provides a Marine Corps Reserve top ten prioritized (PR) unfunded list for major items of equipment required for wartime missions but which are currently not funded in the FYDP. It lists the total quantity required, the total unfunded requirement (UFR), and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.

PR	*NOMENCLATURE*	*TOTAL REQ'D*	*UFR*	*UNIT COST*	*TOTAL UFR COST*
1	F/A-18A+ ENGINEERING CHANGE PROPOSAL 583 (ECP 583)	48	26	4,600,000	55,200,000
2	COMMON END USER COMPUTER EQUIPMENT	Various	Various	Various	2,000,000
3	CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS) A-KITS	19	9	309,000	2,781,000
4	CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS) B-KITS	19	9	605,000	2,420,000
5	MFR MAGTF C4I DSS	2	2	568,162	1,136,324
6	NBC EQUIPMENT	Various	Various	8,974,294	8,974,294
7	KC-130T AVIONICS UPGRADE & STANDARDIZATION	28	1	3,000,000	3,000,000
8	MV-22B	1	1	81,000,000	81,000,000
9	UC-35C	3	3	7,000,000	21,000,000
10	CONTROLLED ENVIRONMENTAL STORAGE SHELTERS	6	6	600,000	3,600,000

Chapter 4
United States Naval Reserve

I. Navy Overview

a) Overview of Navy-Wide Planning Guidance: The National Military Strategy of the United States provides strategic guidance to engage in and prevail at two nearly simultaneous Major Theater Wars (MTW). Naval forces support national strategic objectives through five fundamental and enduring roles: projection of power from the sea, sea control and maritime supremacy, strategic deterrence, strategic sealift, and forward naval presence. Our naval strategy calls for the integration of the Active (AC) and Reserve (RC) components into a seamless and cohesive Total Force capable of meeting requirements in peacetime and in war.

The Naval Reserve (NR) supports the overall mission of the Navy, which is to "Be prepared to conduct prompt and sustained combat operations at sea in support of U.S. national interests." The mission of the RC, as defined by Title 10, U.S.C. is to "provide trained units and qualified persons available for active duty in the armed forces, in time of war or national emergency and at such other times as the national security may require…"

b) Navy-wide Equipping Policy: In compliance with DOD Directive 1225.6, the Chief of Naval Operations (CNO) establishes policy for equipping the NR through promulgation of OPNAV Instruction 4423.3D. It is Navy policy that NR units will be equipped to accomplish all assigned missions and will have an equipment and distribution program that is balanced, responsive to mission requirements, and sustainable. The priority for distribution of new and combat serviceable equipment, with associated support and test equipment, will be given to units scheduled to be deployed/employed first. Equipment priorities for NR units will be established using the same methodology as AC units having the same mobilization mission or deployment requirements.

The Navy's overriding goal is to establish and maintain a seamless and totally integrated Active and Reserve team. Resource Sponsors review NR mission requirements as part of the Planning, Programming and Budgeting System (PPBS) to identify requirements for new procurement, upgrade or redistribution of existing AC assets. Redistribution of equipment to meet NR requirements typically entails a transfer of assets between components. NR new equipment and upgrade requirements are budgeted for procurement under Navy appropriations. Once approved and appropriated as part of the budget, funds are issued to cognizant contracting commands for procurement.

Funding for equipping the NR is provided by the Service budget (P-1R Exhibit), direct Congressional adds to the Service budget for the RC, and National Guard and Reserve Equipment Appropriation (NGREA). *Table 3* identifies the amount of P-1R funding anticipated to be provided in support of the NR for FY 2002 through FY 2004. *Chart 1* lists Congressional adds provided in the last three fiscal years to support NR equipment requirements. *Table 4* identifies the NGREA provided in support of the NR for FY 1999 through FY 2001.

Chart 1
Congressional Adds to Navy Procurement Programs
For Reserve Equipment
($ in thousands)

APP	Nomenclature	Equip No.	FY 1999	FY 2000	FY 2001	Remarks
OPN	MIUW Systems	MIUW	8,000	7,000	3,000	Upgrades MIUW Systems
APN	Reserve Helicopter	CH-60S	19,000			Procures 1 CH-60S
APN	C-40A Aircraft	C-40A			55,000	One C-40Aircraft to replace one DC-9 aircraft
APN	Computer Based Training	CBT	3,000			Develops CBT for Reserve Aircraft
OPN	Littoral Surveillance System (LSS)	LSS	12,000			Develop and deploy 1 LSS
OPN	Frigate Upgrade	FFG	5,500			Upgrade 1 FFG Radar System
	Total		47,500	7,000	58,000	

c) Navy Plan to Fill Mobilization Requirements: MTW Operation Plans (OPLAN) and Contingency Plans (CONPLAN) require NR hardware units to deploy with their own weapon platforms and table of allowance (TOA) equipment. Equipment is maintained at the NR activity as both a training and mobilization asset, stored at major CONUS embarkation locations as War Reserve Materiel Stock (WRMS), pre-positioned overseas, or afloat. Storage as WRMS is typical of Civil Engineering Support Equipment and Material Handling Equipment required to support Naval Construction Force (NCF) and Naval Expeditionary Logistics Force (NAVELSF) units upon mobilization and employment. The release, shipment, and usage of WRMS are dictated by OPLAN requirements.

War Reserve Materiel (WRM) requirements are identified by Naval Component Commanders and prioritized by the CNO. WRMS is normally maintained in the supply system as "swing stocks" (able to support multiple scenarios) or pre-positioned in theater to meet specific OPLAN requirements. WRM requirements are identified, considered, and approved during the Navy's PPBS process by cognizant Systems Commands and Resource Sponsors. WRMS is available to meet both NR and AC requirements. As an example, the NCF is deploying one Naval Mobile Construction Battalion TOA on each of the three Maritime Prepositioning Squadrons deployed world-wide for use by AC or NR units in support of OPLAN requirements.

Equipment and materiel, required by a unit, but not assigned to the unit or available from WRMS would be procured from commercial sources or redistributed from other units.

d) Current Navy Initiatives Affecting Naval Reserve Equipment: The Navy has several ongoing initiatives to modernize, improve, or change the operational capabilities of the NR. These initiatives include:

- The C-9 aircraft replacement program began in 1997 with the objective of replacing the NR's aging DC-9/C-9B transport aircraft with the C-40A (variant of the Boeing 737-700C) aircraft. To date, six aircraft have been funded with one aircraft in the FYDP for FY 2006.
- The NR has two major programs to modernize/upgrade their aircraft. The first program, Engineering Change Proposal 560 (ECP-560), has been funded to upgrade two NR F/A-18A Hornet squadrons (24 aircraft). This modification will achieve compatibility with fleet F/A-18s in all aspects of the strike fighter mission. The initial F/A-18A aircraft is currently undergoing the validation and verification process of the ECP-560 install. The second program is to upgrade all NR P-3Cs to the Update III configuration and installation of Anti-Surface Warfare Improvement Program (AIP) capabilities to match AC P-3C capabilities. To date, 21 Update III installs are complete with an additional 8 funded. No AIP upgrades have been funded.
- The Navy's Helicopter Master Plan is being executed with a goal of equipping all AC and NR squadrons with the H-60 series helicopter by FY 2008. The NR's most immediate helicopter priority is to replace nine aging UH-3H aircraft with CH-60S aircraft, currently scheduled to begin in FY 2004.
- The Naval Reserve Force (NRF) will replace all Flight I Class Guided Missile Frigates (FFG) with Flight III Class (H-60 capable) FFGs by FY 2003.
- Modernization of the Mobile Inshore Undersea Warfare (MIUW) surveillance system continues with the last upgraded system expected to be delivered by the end of FY 2001. In addition, the NR will begin operating the Littoral Surveillance System (LSS) for the Navy. Both systems will provide enhanced surveillance and detection capability.
- The NCF developed a plan to modernize, upgrade, and recapitalize NCF equipment TOAs over the next 15 years. As part of the plan, the NCF began replacing commercial vehicles with more capable and durable tactical vehicles.

e) Navy Plan to Achieve Full Compatibility between Active and Reserve Components: The Navy will continue to manage Total Force equipment inventories to provide the most capable systems to meet mission requirements and minimize the effects of temporary shortfalls and incompatibility. The Navy stresses interoperability as part of the Total Force concept and makes no distinction between the AC and the NR. Acquisition and upgrade programs, redistribution from the AC, and congressional additions for equipment procurement have reduced NR compatibility problems with both AC and Joint Forces.

The Navy will continue the strategy of cascading equipment from the AC to the NR, funding new equipment and modernization requirements in the Future Years Defense Program (FYDP), and applying any additional funding provided by Congress to modernize NR equipment. As in the past, it is fully expected that requirements will exceed resources available. Therefore, the Navy will continue to balance resources with requirements to get the optimum mix of equipment for the Total Force.

II. Naval Reserve Overview

a) Current Status of the Naval Reserve

(1) General Overview: The NR consists of hardware units and augmentation units. For hardware units, equipment availability has a direct impact on unit training and ability to perform assigned missions. NR augmentation units provide trained personnel to supplement the manning of AC gaining commands. For augmentation units, required mobilization equipment is assigned to the AC gaining command. Additionally, in some instances, augmentation units possess a training allowance of equipment.

Hardware units, which are typically commissioned, maintain or have in WRMS organic equipment allowances similar to AC units and are capable of independent deployment. Hardware units are heavily dependent on the availability and readiness of assigned equipment. Systems Commands (i.e. NAVSUP, NAVFAC, NAVAIR, NAVSEA) act as project managers to establish equipment allowances for designated NR hardware units to support OPLAN and CONPLAN execution.

NR hardware units consist of ships, 244 aircraft in 35 squadrons, 20 NCF units, 14 NAVELSF units, 45 Naval Coastal Warfare (NCW) units and 4 Explosive Ordnance Disposal Mobile Units (EODMU). All NRF ships, NCF, NCW, and EOD units are under the operational control of CINPACFLT or CINCLANTFLT. NAVELSF units are under the operational control of Commander, Naval Surface Reserve Force. All NR aviation squadrons are under the operational control of Commander, Naval Air Reserve Force.

(a) Naval Reserve Aviation: The Naval Air Reserve consists of four air wings: Commander, Helicopter Wing Reserve; Commander, Fleet Logistics Support Wing; Commander, Reserve Patrol Wing, and Commander, Carrier Air Wing Reserve Twenty (CVWR-20). The NR possesses 100 percent of the Navy's organic medium and heavy airlift and adversary training capability, 37 percent of the Navy's maritime patrol capability and 12 percent of the Navy's rotary wing capability.

1. Reserve Carrier Airwing: The NR provides one of the Navy's eleven Carrier Air Wings (CVW). The wing (CVRW-20) is comprised of eight squadrons, (4) F/A-18A/B, (1) EA-6B, (2) E-2C, and (1) F-5E/F. CVWR-20's EA-6B squadron has mobilized twice in support of Operations DENY FLIGHT and ALLIED FORCE and deploys annually in support of Operations SOUTHERN WATCH or NORTHERN WATCH. In addition to CVWR-20's operational requirements, its squadrons are engaged peacetime contributory support to the fleet. CVWR-20 provides 100 percent of the Navy's adversary mission capability, supports counter-narcotics operations, and participates regularly in Fleet exercises. The NR is planning to upgrade three F/A-18A squadrons with more modern software and avionics capability to improve tactical and logistical compatibility with AC aircraft. The first upgraded F/A-18 is scheduled for delivery in FY 2001. One F/A-18 squadron's upgrade remains unfunded (see *Table 8*).

2. Reserve Maritime Patrol Aviation: The NR provides 37 percent of the Navy's Maritime Patrol capability. The NR has seven P-3 Squadrons each with an aircraft allowance of six aircraft. All NR P-3 squadrons report to a single Maritime Patrol Squadron Wing Commander. Of the 40 P-3 aircraft required by the geographic Unified Commanders to be forward deployed, three are provided by the NR. In FY 2001, the NR began the installation of

eight P-3 Update III modification kits procured with NGREA funding. Upon completion, the NR Patrol Wing will have nearly 70 percent of their aircraft with the Update III configuration. The modernization of NR patrol aircraft is critical to improving NR operational capability consistent with AC aircraft.

3. Fleet Air Logistics: The NR provides 100 percent of the Navy's organic intra-theater medium and heavy airlift capability. This airlift provides direct logistics support for Fleet Commanders worldwide and airlift support to all military departments within CONUS. The NR's Fleet Logistics Support Wing consists of 14 squadrons operating C-9, C-20, and C-130 aircraft. The NR's C-9 aircraft average over 28 years in age and require substantial avionics upgrades and engine replacement to meet noise abatement and navigation requirements. The Director of the Naval Reserve committed over $3.5 million in FY 2000 NGREA funding toward C-9 upgrades. A significant modernization initiative for NR airlift capabilities was initiated in FY 1997 when $120 million was provided through NGREA for procurement of two C-40As (C-9 replacement aircraft). The modernization program was continued in FY 1998 and FY 1999 with NGREA funding one additional C-40A aircraft each fiscal year. The fifth C-40A aircraft for the NR was funded in the FY 2000 President's Budget and the sixth aircraft by a Congressional addition to the FY 2001 budget. One additional aircraft is in the Navy's FYDP in FY 2006. A variant of the Boeing 737-700 aircraft, the first C-40A will be accepted by the NR in April 2001.

4. Reserve Helicopter Wing: The NR provides five helicopter squadrons to the Navy's rotary wing fleet and represents 10 percent of the Navy's helicopter inventory, including 100 percent of the Navy's Helicopter Combat Support Special Squadrons and 40 percent of the Airborne Mine Countermeasures (AMCM) assets. The six squadrons perform a variety of missions including search and rescue, logistics support, anti-submarine warfare, AMCM and counter-narcotics operations. The NR helicopter inventory consists of the HH-60H, SH-2G (to be retired in FY 2001), SH-60B (due from the AC in FY 2001 and 2002), SH-60F, UH-3H and MH-53E aircraft. The NR is affected by the implementation of the Navy's Helicopter Master Plan, which will eventually transition all helicopter squadrons within the Navy to the H-60 helicopter series. Under the current plan, the NR will be an all H-60 force by FY 2008. The NR's most immediate helicopter priority is to replace nine aging UH-3H aircraft with CH-60S aircraft. The transition is scheduled to begin in FY 2004. During FY 2001, the NR will decommission two Helicopter Anti-submarine, Light (HSL), Squadrons (SH-2G aircraft) and commission one HSL Squadron (SH-60B aircraft). Six SH-60B aircraft will be redistributed from the AC to the NR during FY 2001 and FY 2002 to complete the stand-up of the new HSL squadron in Mayport, FL.

(b) Naval Surface Reserve Force

1. NRF Ships: NRF ships regularly deploy to support the Navy's operational requirements and relieve the operational tempo of AC ships. In FY 2000, 39 percent of the twenty-six NRF ships deployed for four to six months in support of U.S. maritime interests.

The NR is transitioning all Flight I Class FFGs to Flight III Class FFGs with a target transition completion date of FY 2003. Two Flight I FFGs decommission in FY 2002 and 3 Flight I FFGs decommission in FY 2003. The SH-2G helicopter, a primary weapons system of Flight I Class FFGs, will retire from service in FY 2001.

The NR surface combatant force continues to remain a vital part of the U.S. Navy, participating in numerous fleet exercises such as UNITAS, STANAVFORLANT, Great Lakes Cruise 00, CARAT 00, and Caribbean counter-narcotic operations. These ships are a significant operational asset as well as important training platforms for Naval Reservists. The NR surface combatant force currently consists of 8 Perry Class Frigates and 1 Newport Class Tank Landing Ships (LST). A Congressional add to the Navy's FY 1999 procurement program provided $5.5 million for an upgrade of one FFG's air and surface search radar systems. The NR FFGs comprise approximately one third of Commander, Naval Surface Group Two forces whose primary mission is to support counter drug operations in the Caribbean.

The NR continued to expand its Mine Warfare capability during FY 2000 and FY 2001. The NR maintains approximately 60 percent of the surface ship mine warfare capabilities of the U.S. Navy. In FY 2000, one Minehunter Coastal (MHC) ship (USS SHRIKE) was added to the NRF. In FY 2001, one MHC (USS OSPREY) and one Mine Countermeasure (MCM) ship (USS GLADIATOR) were added to the NRF. In FY 2000, the Navy reverted two NRF MHC ships to the AC and forward deployed the ships (USS RAVEN and USS CARDINAL) to Bahrain in support of Commander, U. S. FIFTH Fleet operations in the U.S. Central Command's area of responsibility. The end result is a NRF mine warfare fleet consisting of ten MHCs, five MCMs and one Mine Countermeasures Support ship (USS INCHON). The USS INCHON is the Navy's only mine warfare command and control ship and is the centerpiece of the U.S. Navy's mine warfare capability.

The aircraft carrier, USS JOHN F. KENNEDY (CV 67) became an Operational Reserve Carrier in 1995. Due to aircraft carrier deployment requirements, the USS JOHN F. KENNEDY returned to the AC in October 2000 to relieve the operational tempo for the remaining eleven aircraft carriers in the U.S. Navy's inventory.

2. Naval Coastal Warfare: The NCW organization consists of 22 Mobile Inshore Undersea Warfare (MIUW) units, 14 Inshore Boat Units (IBU), and 9 Harbor Defense Units (4 possessing Mobile Ashore Support Terminal equipment). From FY 1997 through FY 2001, over $150 million of Other Procurement Navy and NGREA funding has been provided to upgrade the equipment and capabilities of the NCW organization.

Specializing in coastal surveillance, NCW units provide surface and subsurface surveillance of inshore areas including ports and harbors, tactical theater level command and control, and small boat capability to support expeditionary warfare operations by U.S Naval forces. MIUW units provide 100 percent of the Navy's capability for shallow water surveillance and detection of surface craft, subsurface craft and swimmer threats. Operational control of all NCW units transferred from Commander, Naval Surface Reserve Force to CINCLANTFLT and CINCPACFLT in FY 1999.

The NCW forces have fully upgraded 17 MIUW unit Radar Sonar Surveillance Center Vans. The remaining five vans will be upgraded by the end of FY 2001. The upgraded MIUW units are in high demand by Unified and Naval Component Commanders to support critical in-theater exercises and operational requirements.

In FY 1998, NCW forces were tasked to demonstrate the concept of the Littoral Surveillance System (LSS). LSS leverages emerging technologies developed by the U.S. Army and National Intelligence Community with MIUW capabilities. LSS integrates data from

overhead tactical sensors, including aircraft and unmanned aerial vehicles, with MIUW close-in surface waterborne surveillance and shallow underwater surveillance sensor data to provide real-time, integrated surveillance and targeting in support of forces ashore and land attack capable ships. In FY 2000, the Navy transferred resource sponsorship of the LSS Program from the Expeditionary Warfare Division (N75) to the Surface Warfare Division (N76). MIUW Unit 114 will operate the initial LSS at Whiteman, AFB, in Missouri.

3. NCF: The contingency construction support units of the Reserve NCF provide 66 percent of the Navy's combat construction capabilities in support of Unified and Naval Component Commander requirements.

Under the operational control of CINCPACFLT and CINCLANTFLT, the reserve portion of the NCF consists of twelve Naval Mobile Construction Battalions, four Naval Construction Regiments, two Construction Battalion Maintenance Units, and two Naval Construction Force Support Units. These units continue to provide integral support for worldwide contingency operations and exercises. In addition to their mobilization mission, NCF units provide peacetime contributory support to reduce the backlog of real property maintenance and perform construction projects at Naval activities worldwide. The reserve units of the NCF have substantial equipment shortfalls in their deployment TOA pack-ups held in WRMS. Major equipment shortfalls include tactical vehicles, other civil engineering support equipment and communications gear. Over $10 million in NGREA funding was provided to alleviate NCF reserve equipment shortfalls during FY 1999 through FY 2001. Beginning in FY 2000, the NCF began prepositioning TOA pack-up material and equipment onboard the three Maritime Prepositioning Squadrons deployed world-wide. These prepositioned TOA pack-ups are available for use by Active or Reserve NCF units in support of OPLAN and CONPLAN execution.

4. Naval Expeditionary Logistics Support Force: NAVELSF units constitute over 90 percent of the Navy's expeditionary logistics support capabilities. NAVELSF units provide a wide range of logistics capabilities to include; ship loading and discharge, operation of air cargo terminals and freight forwarding terminals, warehouse operation and mobile mail centers. To maintain their skills during peacetime, cargo handlers carry out Fleet Hospital Support Program ship offloads and backloads, provide contributory support to Naval logistics commanders in the EUCOM, PACOM and CENTCOM areas of responsibility, and occasionally augment the Navy's active cargo handlers during Maritime Preposition Force operations and exercises. NAVELSF equipment (civil engineering support equipment, material handling equipment, and communications gear) held by their units and in WRMS is serviceable but requires some modernization. The Director of the Naval Reserve has provided over $4 million in NGREA funding for modernization from FY 1999 through FY 2001.

5. Explosive Ordnance Disposal (EOD): Under the operational control of CINCLANTFLT and CINCPACFLT, reserve EOD forces consist of four of the ten EODMUs in the Navy and four augment detachments in support of each of the two AC Mobile Diving and Salvage Units. EOD units provide combat ready forces to eliminate ordnance hazards, clear harbors and approaches of obstacles, and salvage and recover ships, aircraft and weapons lost or damaged in peacetime or combat in support of national military strategy.

Reserve EODMUs require portable communications equipment to ensure internal and external Navy communication connectivity, as well as joint connectivity with Marine Corps,

Coast Guard and local law enforcement agencies. In addition, EODMUs require civil engineering support equipment and upgrades to their rigid hull inflatable boats to support mission requirements. The Director of the Naval Reserve has committed over $2 million in FY 1999 and FY 2001 NGREA funding toward fulfilling EODMU equipment shortfalls.

(2) Status of Equipment

(a) Major Equipment On Hand: *Table 1* lists NR major equipment inventories on-hand and requirements to meet assigned missions.

(b) Average Age of Major Equipment Items: As in the AC, the NR possesses equipment requiring replacement and modernization. *Table 2* displays the average age of major equipment in the NR inventory.

(c) Compatibility of Current Equipment with the AC: Achieving equipment compatibility with the AC is one of the Commander's, Naval Reserve Force, highest priorities and is reflected in the NR unfunded equipment priority list (see *Table 8*). Navy procurement and upgrade programs, redistribution of equipment from the AC, and congressionally added funding have improved equipment compatibility between the AC and NR.

Aircraft compatibility problems exist due to equipment age. In addition, some NR aircraft do not have the most recent upgrades installed creating a large unfunded requirement for aircraft modernization for the NR. Examples of NR aircraft that have reduced capability as compared to AC aircraft include F/A-18A, P-3C, and UH-3H aircraft. NR F/A-18s lack the capability to deliver the latest precision guided munitions. Approximately 30 percent of the NR's P-3C aircraft require Update III modification and all require installation of the Anti-Surface Improvement Program (AIP) upgrade. The NR UH-3H aircraft are aged and are scheduled for replacement with CH-60S aircraft in FY 2004.

The most significant compatibility issue for NRF ships is the retirement of the SH-2G helicopter during FY 2001. Without the capability to embark an organic Navy aviation capability, NFR Flight I Class FFGs will be assigned missions not requiring use of their full aviation capability or helicopter support will be arranged from other sources. The NRF will replace all of its Flight I Class FFGs with Flight III class FFGs (H-60 capable) by 2003.

For the NCF, sustainability and interoperability with other services/units with whom they operate are also major challenges. NCF units operate commercial vehicles that lack the all-terrain capability, survivability and longevity of the tactical vehicles used by other services. In addition, 35 percent of all NCF construction equipment is operating beyond its normal life expectancy. With the age of NCF equipment, parts support, maintainability and repair are becoming more difficult. Only 40 percent of NCF communication equipment allowances are filled. The assets on hand are not compatible with current technology and are not interoperable with USMC communication equipment. The lack of communication equipment significantly degrades NCF readiness and seriously impacts their ability to operate effectively in a joint environment.

Other NR expeditionary units (i.e NAVELSF, EOD, etc) are also experiencing shortages of modern communications equipment inhibiting full integration with AC forces.

(d) Maintenance and Equipment Readiness: The NR shares all of the same readiness and maintenance challenges as the AC. Historically, depot level maintenance has been sacrificed to fund other Navy requirements. This eventually led to ships and aircraft readiness problems and maintenance backlogs. Beginning in FY 1998, the Navy began fully funding maintenance requirements and is rapidly eliminating maintenance backlogs.

(e) Equipment Modernization Shortfalls: As with the AC, the NR has a considerable list of unfunded equipment replacement and modernization requirements. Each year, the Director of the Naval Reserve develops an unfunded equipment requirement list and forwards it to CNO (N8) for programming consideration. The NR's unfunded equipment requirements are contained in *Table 8*.

b) Changes Since Last NGRER: In FY 2000, the Navy added a C-40A procurement line item in the FYDP, making the C-40A transport aircraft a funded program within the Aircraft Procurement Navy appropriation. The FY 2001 National Guard and Reserve Equipment Appropriation provided $5 million for miscellaneous equipment and $58 million was provided as congressional additions for procurement of one C-40A aircraft ($55 million) and Naval Coastal Warfare equipment ($3 million).

The USS JOHN F. KENNEDY (CV 67) and two MHC ships reverted to the AC. Two NR FFGs (USS CLARK and USS JOHN A MOORE) were decommissioned reducing the NR FFG force from 10 to 8. The USS LAMOURE COUNTY was decommissioned reducing the NR LST force from 2 to 1. In addition, the NR is in the process of decommissioning both of its SH-2G helicopter squadrons (HSL 84 and HSL 94) during FY 2001.

The NR is in the process of commissioning an HSL-60 squadron in Mayport, FL. The squadron will receive three SH-60B aircraft in FY 2001 and three SH-60B aircraft in FY 2002.

The Navy transferred resource sponsorship of the LSS Program from the Expeditionary Warfare Division (N75) to the Surface Warfare Division (N76). The intent of this effort is to leverage the technology from LSS and eventually transfer the technology to surface ships.

c) Future Years Program (FY 2002-FY 2004)

(1) FY 2004 Equipment Requirements: *Table 1* compares anticipated FY 2004 major equipment inventories with major equipment requirements. The replacement of the C-9A and DC-9 aircraft with C-40A aircraft continues to be the highest equipment priority within the NR. Table 7 provides a list of equipment substitutes within the NR.

(2) Anticipated New Equipment Procurements: *Tables 3 and 4* identify major equipment to be procured across the FYDP for the NR. *Table 6* compares NR planned versus actual equipment procurements for FY 1998.

(3) Equipment Transfers to the Naval Reserve: *Table 5* lists planned major equipment transfers from the AC to the NR.

(4) Anticipated Withdrawals from Naval Reserve Inventory: *Table 5* identifies major equipment to be decommissioned within the NR.

(5) Equipment Shortages and Modernization Shortfalls at the end of FY 2004: *Tables 1* and *8* provide equipment inventories and modernization requirements of the NR.

d**)** Summary and Conclusion: As the NR strives to seamlessly integrate with the AC into a cohesive Total Force capable of meeting all requirements in peacetime and in war, NR equipment requirements will continue to be addressed through a combination of equipment redistribution from the AC, procurement of new equipment and modernization of equipment held in the NR inventory. With the diminishing of the NGREA, the NR will become more reliant on the Navy's PPBS to fulfill future equipment requirements.

The NR and the AC continue to face the problem of equipment requirements far exceeding resources available. The top equipment priorities within the NR are procurement of the C-40A aircraft to replace twenty-seven, aged DC-9 and C-9A aircraft, modernization of the NR legacy information technology systems and infrastructure, and upgrade of the P-3C and F/A-18A aircraft. As in the past, the Navy will continue to balance resources to best equip the AC and the NR to support mission requirements.

USNR

Table 1

Consolidated Major Item Inventory and Requirements

NOTE: This table provides a comprehensive list of selected major items of equipment. It provides the quantity on-hand (QTY O/H) projected to be in the inventory at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) needed to meet full wartime requirements of the Naval Reserve. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment which should be in the inventory of the Naval Reserve.

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
AIRCRAFT							
AIRCRAFT,TRANSPORT (SKYTRAIN)	C-9B	27,507,000	15	15	15	15	**15**
AIRCRAFT,TRANSPORT (SKYTRAIN)	DC-9	18,136,000	8	7	6	5	**5**
AIRCRAFT,TRANSPORT (BOEING 737-700)	C-40A	49,029,000	4	5	6	7	**7**
AIRCRAFT,TRANSPORT (HERCULES)	C-130T	34,514,000	20	20	20	20	**14**
AIRCRAFT,TRANSPORT (GULFSTREAM)	C-20D	31,595,000	2	2	2	2	**2**
AIRCRAFT,TRANSPORT (GULFSTREAM)	C-20G	38,559,000	4	4	4	4	**4**
AIRCRAFT,TRANSPORT (KINGAIR)	UC-12B	3,509,000	6	6	6	6	**5**
AIRCRAFT,PATROL,P-3C (ORION)	P-3C	57,305,000	48	48	48	48	**42**
AIRCRAFT,EARLY WARNING (HAWKEYE)	E-2C	79,333,000	10	10	10	10	**8**
AIRCRAFT,EARLY WARNING (PROWLER)	EA-6B	64,143,000	4	4	4	4	**4**
AIRCRAFT,FIGHTER/ATTACK,F/A-18A (HORNET)	F/A-18A	43,296,000	46	46	46	46	**46**
AIRCRAFT,FIGHTER/ATTACK,F/A-18B (HORNET)	F/A-18B	43,296,000	3	3	3	3	**2**
AIRCRAFT,FIGHTER,F-5E (FREEDOM FIGHTER)	F-5E	8,081,000	20	20	20	20	**18**
AIRCRAFT,FIGHTER,F-5F (FREEDOM FIGHTER)	F-5F	11,834,000	3	3	3	3	**3**
HELICOPTER,COMBAT (SEAHAWK)	CH-60S	15,245,000	0	0	0	8	**8**
HELICOPTER,COMBAT SAR (SEAHAWK)	HH-60H	18,835,000	18	18	18	18	**18**
HELICOPTER,COMBAT,SAR (SEAHAWK)	UH-3H	9,673,000	9	9	9	0	**0**
HELICOPTER,MINEWAR, (SEA DRAGON)	MH-53E	32,409,000	7	7	7	7	**8**
HELICOPTER,ASW,FRIGATE (SEASPRITE)	SH-2G	22,522,000	0	0	0	0	**0**
HELICOPTER,ASW,FRIGATE (SEAHAWK)	SH-60B	28,122,000	3	6	6	6	**6**
HELICOPTER,ASW,CARRIER (SEAHAWK)	SH-60F	20,166,000	4	4	4	4	**4**
SHIPS							
FRIGATE,GUIDED MISSILE (PERRY CLASS) FLIGHT I	FFG	322,887,952	5	3	0	0	**0**
FRIGATE,GUIDED MISSILE (PERRY CLASS) FLIGHT III	FFG	322,887,952	3	5	8	8	**8**
SHIP,LANDING SHIP TANK (NEWPORT CLASS)	LST	173,269,379	1	1	1	1	**1**
SHIP,MINE COUNTERMEASURES (AVENGER CLASS)	MCM	154,193,429	5	5	5	5	**5**
SHIP,MINE COUNTERMEASURES,COMMAND (INCHON)	MCS	426,716,684	1	1	1	1	**1**
SHIP,MINE HUNTER,COASTAL (OSPREY CLASS)	MHC	150,528,605	10	10	10	10	**10**
NAVAL COASTAL WARFARE FORCES							
MIUW SURVEILLANCE SYSTEM	AN/TSQ-108ASU	5,200,000	22	22	22	22	**22**
BOAT,INSHORE (NCW)	IBU	360,000	25	25	25	25	**31**
LITTORAL SURVEILLANCE SYSTEM	LSS	26,000,000	1	1	1	1	**1**
MOBILE ASHORE SUPPORT TERMINAL	MAST	2,300,000	6	6	6	6	**6**
RESERVE NAVAL CONSTRUCTION FORCES							
NAVAL CONSTRUCTION REGIMENT TOA	NCR	2,200,000	3	3	3	4	**4**
CONSTRUCTION BATTALION MAINTENANCE UNIT TOA	CBMU	11,000,000	0	0	0	1	**2**
NAVAL CONSTRUCTION FORCE SUPPORT UNIT TOA	NCFSU	47,000,000	0	0	0	1	**2**
NAVAL MOBILE CONSTRUCTION BATTALION TOA	NMCB	39,000,000	5	7	7	8	**12**
RESERVE NAVAL EXPOLOSIVE ORDNANCE DISPOSAL FORCES							
NAVAL RESERVE FORCE EOD MOBILE UNITS	NRFMU	3,734,197	4	4	4	4	**4**
NAVAL EXPEDITIONARY LOGISTICS SUPPORT FORCES							
MATERIAL HANDLING EQUIPMENT ITEMS	NAVELSF	16,684,500	301	301	301	301	**247**
CIVIL ENGINEERING SUPPORT EQUIPMENT ITEMS	NAVELSF	10,506,883	271	271	271	271	**473**

USNR
Table 2

Average Age of Equipment

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for FY 2002.

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
AIRCRAFT			
AIRCRAFT,TRANSPORT (SKYTRAIN)	C-9B	27	
AIRCRAFT,TRANSPORT (SKYTRAIN)	DC-9	31	
AIRCRAFT,TRANSPORT (BOEING 737-700)	C-40A	1	
AIRCRAFT,TRANSPORT (HERCULES)	C-130T	6	
AIRCRAFT,TRANSPORT (GULFSTREAM)	C-20D	13	
AIRCRAFT,TRANSPORT (GULFSTREAM)	C-20G	5	
AIRCRAFT,TRANSPORT (KINGAIR)	UC-12B	19	
AIRCRAFT,PATROL,P-3C (ORION)	P-3C	18	
AIRCRAFT,EARLY WARNING (HAWKEYE)	E-2C	17	
AIRCRAFT,EARLY WARNING (PROWLER)	EA-6B	23	
AIRCRAFT,FIGHTER/ATTACK,F/A-18A (HORNET)	F/A-18	14	Includes F/A-18A and F/A-18B aircraft
AIRCRAFT,FIGHTER,F-5E (FREEDOM FIGHTER)	F-5	26	Includes F-5E and F-5F aircraft
HELICOPTER,COMBAT SEARCH/RESCUE (SEAHAWK)	HH-60H	8	
HELICOPTER,COMBAT,SAR	UH-3H	37	
HELICOPTER,MINEWAR,MH-53E (SUPER STALLION)	MH-53E	6	
HELICOPTER,ASW,FRIGATE (SEASPRITE)	SH-2G	N/A	Decommissioned in FY 2001
HELICOPTER,ASW,CARRIER (SEAHAWK)	SH-60F	10	
SHIPS			
FRIGATE,GUIDED MISSILE (PERRY CLASS) FLIGHT I	FFG	22	
FRIGATE,GUIDED MISSILE (PERRY CLASS) FLIGHT III	FFG	20	
SHIP,LANDING SHIP TANK (NEWPORT CLASS)	LST	32	
SHIP,MINE COUNTERMEASURES (AVENGER CLASS)	MCM	12	
SHIP,MINE COUNTERMEASURES,COMMAND (INCHON)	MCS	32	
SHIP,MINE HUNTER,COASTAL (OSPREY CLASS)	MHC	6	

USNR
Service Planned Procurements (P-1R Data)

NOTE: This table identifies the dollar-value of equipment programmed to be procured or upgraded with Navy procurement funds as identified in the P-1R exhibit of the President's budget. Deliveries of procured equipment normally take one to two years before arriving in the inventory; eg. items procured in FY 03 may not arrive in the Naval Reserve inventories until FY 04 or FY 05.

NOMENCLATURE	*FY 2002*	*FY 2003*	*FY 2004*	*REMARKS*
AIRCRAFT PROCUREMENT NAVY				
F-18 SERIES MODIFICATIONS	11,700,000	12,000,000		Note 1
H-46 SERIES MODIFICATIONS	200,000	200,000	200,000	Note 1
H-53 SERIES MODIFICATIONS		6,600,000	6,800,000	Note 1
C-130 SERIES MODIFICATIONS	2,000,000	300,000	300,000	Note 1
CARGO/TRANSPORT A/C SERIES MODIFICATIONS	1,300,000	400,000	400,000	Note 1
OTHER PROCUREMENT NAVY				
DIVING AND SALVAGE EQUIPMENT	100,000	100,000	100,000	
ASW PATROL SQUADRONS - SONOBUOYS	3,500,000	3,100,000	3,200,000	
GENERAL PURPOSE TRUCKS	*	*	700,000	
CONSTRUCTION AND MAINTENANCE EQUIP	*	*	200,000	
FIRE FIGHTING EQUIPMENT	800,000	1,000,000		
TACTICAL VEHICLES		3,300,000	5,000,000	
ITEMS UNDER $5 MILLION	200,000	3,000,000	200,000	
MATERIALS HANDLING EQUIPMENT	200,000	1,400,000	1,400,000	
MOBILE SENSOR PLATFORM	4,000,000	4,000,000	4,000,000	
TOTAL	**$24,000,000**	**$35,400,000**	**$22,500,000**	
Note 1: Includes USMCR aircraft.				
* Items less than $50,000				
# The above figures do not include ammunition				

USNR
National Guard and Reserve Equipment Appropriation (NGREA) Procurements

NOTE: This table identifies the dollar-value of equipment programmed to be procured with National Guard and Reserve Equipment Appropriations (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from date of procurement.

NOMENCLATURE	*FY 1999*	*FY 2000*	*FY 2001*	*REMARKS*
AIRCRAFT, TRANSPORT C-40A	44,000,000		500,000	
F/A-18A UPGRADES (ECP -560)	6,000,000		1,582,000	
NAVAL COASTAL WARFARE	1,420,000	1,050,000	258,000	Note 1
NAVAL CONSTRUCTION FORCE	4,850,000	3,430,000	2,465,000	Note 1
NAVAL EXPEDITIONARY LOGISTICS SUPPORT FORCE	2,730,000	1,400,000	117,000	Note 1
EXPLOSIVE ORDNANCE DETACHMENT	1,000,000	1,120,000	43,000	Note 1
IT INFRASTRUCTURE MODERNIZATION		5,896,533		Support of USNR Legacy System upgrades
USQ-113 RECEIVER/TRANSMITTERS FOR EA-6B AIRCRAFT		2,500,000		One for each of four EA-6Bs assigned to USNR
P-3C AIRCRAFT TRAINER UPGRADES		920,000		
C-9 TRANSPORT AIRCRAFT UPGRADES		3,580,000		FAA mandated safety upgrades
TOTAL	**$60,000,000**	**$19,896,533**	**$4,965,000**	
Note 1: Used for procurement of Civil Engineering Support Equipment, Material Handling Equipment and Communication Equipment				
to support unit wartime Table of Allowance requirements.				

USNR
Projected Equipment Transfer/Withdrawal Quantities

NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transfered equipment from the Active Navy to the Naval Reserve is commonly called "cascaded equipment." Although this table highlights a three-year period, exact quantities of transfers or withdrawals may not be known until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.

NOMENCLATURE	*EQUIP No.*	*FY 2002 QTY*	*FY 2003 QTY*	*FY 2004 QTY*	*REMARKS*
AIRCRAFT, TRANSPORT (SKYTRAIN)	DC-9	-1	-1		Replaced by C-40A aircraft on one for one basis
HELICOPTER, COMBAT, SAR	UH-3H			-9	Decommissionings, replaced by eight CH-60S Helos
HELICOPER, ASW, FRIGATE (SEAHAWK)	SH-60B	3			Complete standup of HSL-60 in Mayport, FL
FRIGATE, GUIDED MISSILE (PERRY CLASS) FLT I	FFG	-2	-3		Decommissionings, replaced with Flight III FFGs
FRIGATE, GUIDED MISSILE (PERRY CLASS) FLT III	FFG	2	3		Completes replacement of Flight I FFGs

USNR

Table 6

FY 1998 Planned vs Actual Procurements and Transfers

NOTE: This table compares what the Navy planned to procure and transfer to the Naval Reserve in FY 1998 with actual procurements and transfers. Since the procurement cycle is normally one to two years from funding to delivery, this table identifies only what has been delivered through the end of FY 2000.

Nomenclature	*Equip No.*	*FY 98 Transfers*		*FY 98 Procurements*		*FY 98 NGREA*	
		Planned	*Actual*	*Planned*	*Actual*	*Planned*	*Actual*
FRIGATE, GUIDED MISSILE (FLIGHT III)	FFG	2	2				
SHIP, MINE HUNTER COASTAL (OSPREY CLASS)	MHC	2	2				
HELICOPTER, COMBAT (SEAHAWK)	CH-60S			2	2 (Note 1)		
LITTORAL SURVEILLANCE SYSTEM	LSS					1	1
AIRCRAFT, TRANSPORT (BOEING 737-700)	C-40A					1	1 (Note 2)
FUNDING EXECUTION							
ADVERSARY				100,000	100,000		
F-18				26,500,000	26,500,000		
H-46				2,000,000	2,000,000		
AH-1W				500,000	500,000		
H-53				300,000	300,000		
H-1				1,700,000	1,700,000		
H-3				100,000	100,000		
P-3				3,400,000	3,400,000		
C-130				3,700,000	3,700,000		
CARGO/TRANSPORT				20,200,000	20,200,000		
DIVING & SALVAGE EQ				200,000	200,000		
AN/SSQ-53 (DIFAR)				2,500,000	2,500,000		
AN/SSQ-62 (DICASS)				700,000	700,000		
PASSENGER CARRYING VEHICLES				100,000	100,000		
SPECIAL PURPOSE VEHICLES				100,000	100,000		
AIRCRAFT, TRANSPORT,C-40A						45,000,000	45,000,000
CESE TOA						2,500,000	2,500,000
CESE UPDATE, 2.5 TON TRUCK SLEP						5,000,000	5,000,000
GSE F/A-18						1,000,000	1,000,000
HELICOPTER UPGRADES						1,500,000	1,500,000
NAVAL COASTAL WARFARE						25,000,000	25,000,000
Note 1: Will be delivered during FY 2004 per the Navy's Master Helicopter Plan.							
Note 2: Will be delivered during FY 2001.							

USNR
Major Item of Equipment Substitution List

NOTE: This table identifies equipment authorized by the Navy to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is able to be deployed in wartime. This data meets the Title 10 requirement to identify equipment that is not the most desired item of equipment.

Required Item Nomenclature	***Required Item Equip No.***	***Substitute Item Nomenclature***	***Substitute Item Equip No.***	***FY 2002 QTY***	***Deployable Yes***	***No***
HELICOPTER, ASW	SH-60R	HELICOPTER, ASW	SH-60B	6	X	
HELICOPTER, ASW	SH-60R	HELICOPTER, ASW	SH-60F	4	X	
HELICOPTER, COMBAT	CH-60S	HELICOPTER, COMBAT SAR	UH-3H	9	X	
HELICOPTER, COMBAT	CH-60S	HELICOPTER, COMBAT SAR	HH-60H	18	X	
AIRCRAFT, TRANSPORT	C-40A	AIRCRAFT, TRANSPORT	C-9B	15	X	
AIRCRAFT, TRANSPORT	C-40A	AIRCRAFT, TRANSPORT	DC-9	12	X	

USNR

Table 8

Modernization Requirements

FY 2002

($ in Thousands)

NOTE: This table provides a Naval Reserve top ten prioritized (PR) unfunded list for major items of equipment required for wartime missions but which are currently not funded in the FYDP. It lists the unfunded quantity (QTY) and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.

	UNFUNDED EQUIPMENT	FY02		FY03		FY04		
PRI	REQUIREMENT	Cost	Qty	Cost	Qty	Cost	Qty	Remarks
1	C-40A Transport Aircraft	122,200	2	170,500	3	172,000	3	Replace aging C-9 with C-40A
2	CNRF Information Technology Infrastructure	30,500		20,112		18,374		Improvements to NR LAN, SIPERNET, system and infrastructure
3	P-3C AIP/BMUP Kits	49,468	2/3	52,350	2/3	53,143	2/3	Achieve commonality w/ Active P-3C UD III Squadrons
4	Naval Coastal/Expeditionary Warfare Forces	35,050		31,700		30,280		Fulfill CB/ELSF/NCW unit TOA for CESE, Comm Equip, Sup Equip
5	F/A-18 Mod, ECP 560	36,000	12					Upgrade Reserve F/A-18A precision guided munitions capability
6	F-5 Avionics Modernization	47,000	12	47,000	12	47,000	12	Upgrade the 25 year old F-5 avionics package
7	Joint Forces Air Component Commander (JFACC) Units	615	3					Equip JFACC units w/ hardware/software for SIPERNET connectivity
8	C-130T Avionics Modernization Program	2,352		3,352		19,256		Standardize cockpit configuration of all NR/MCR C-130T aircraft
9	FLIR kits (AAS-51Q) for SH-60B	7,000	4	700		800		Procure 4 Forward Looking Infra-Red (FLIR) (AAS-51-Q) for SH-60B
10	HH-60H NVG/FLIR/Hellfire Trainer	2,000	1					Procure HH-60H trainer

Chapter 5
United States Air Reserve Components

I. United States Air Force Overview

a) Overall Air Force-wide Planning Guidance: To achieve the United States National Security Objectives, the Joint Chiefs of Staff developed a broad strategy, documented in the *Joint Vision 2020,* for the military services to take the necessary measures and prepare "now" for the uncertainty of tomorrow. It continues to endorse strategic the concepts of decisive force, power projection, overseas presence, and strategic agility to meet the evolving changes in the future strategic environment.

Based on the joint strategies laid out in *Joint Vision 2020*, the Air Force (AF) developed its guidance in *America's Air Force Vision 2020* to prescribe an understanding of what air and space power mean to the nation. This vision reiterates the Total Force commitment of "Active, Guard, Reserve…seamless in providing aerospace power". The Air Reserve Component (ARC), comprised of Air National Guard (ANG) and Air Force Reserve (AFR) units, supports this "Total Force" concept; the roles and missions of the ARC are mirror images of the Active Air Force. In August 1998, to provide better integration of forces and as a response to changing world security, the AF introduced the Expeditionary Air Force (EAF) concept. The EAF organizationally links geographically separated units into standing Aerospace Expeditionary Forces (AEF). These AEF units launch from AF installations and are ready to fight or deliver humanitarian supplies on very short notice.

Ten AEF packages were developed from the air and space resources and manpower from the Total Air Force. AEF units serve on a 15-month rotation cycle with 90-day vulnerability windows for deployments. During each vulnerability window, two AEFs are available for short notice taskings and/or scheduled forward presence missions. The objective is to increase predictability and stability in the lives of airmen. These forces are light, lean, lethal forces that exploit the speed, range, flexibility, and responsiveness of aerospace power.

The EAF provides a full spectrum of capabilities that can be tailored to meet the requirements of the geographic Commanders-in-Chief (CINC).

The following tables provide a brief synopsis highlighting ARC support provided for real world contingencies and operations in FY 2000:

Air Reserve Component Provides

Weather Reconnaissance	100%
DOD Airborne Fire Fighting Support to the U.S. Forestry Service	100%
Aerial Spraying	100%
Strategic Interceptor Force	100%
Air Control and Warning	100%
Aeromedical Evacuation	87%
Tactical Airlift	71%
Air Refueling Tankers	57%
Strategic Airlift	38%
Service's Fighter Strength	38%
Bomber Strength	16%

Air Force Reserve Provides

WC-130 Weather Reconnaissance Force	100%
Aerial Spraying Capability	100%
HH-60 Range and Shuttle Support	100%
Total Medical Crew Capability	70%
MC-130 Combat Talon 1 Capability	62%
C-141, C-5 and C-17 Airlift Missions	45%
KC-10 Air Refueling	45%
Air Force Space Command's Weather and Navigation Missions	20%
B-52 Bomber Force	16%

Air National Guard (ANG) Provides

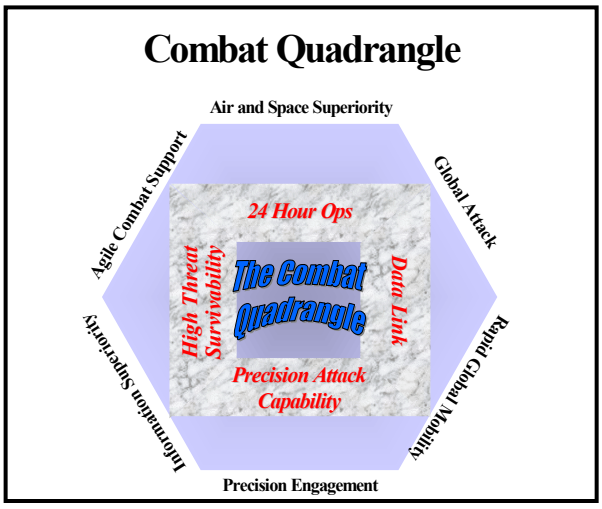
Penetrating Manned Tactical Reconnaissance (additional capability in certain F-16 squadrons)	100%
Airborne Psyop Broadcasts (with the EC-130 COMMANDO SOLO Mission)	100%
Command and Control and Ski Landing Missions (for the National Science Foundation in Support of the U.S. Antarctic Program)	100%
Low-Profile SIGINT Airborne Collection (with the SENIOR SCOUT Mission)	100%
Mobile Missile Warning for Space Command	100%
Continental United States Air Defense	100%
Observation/Surveillance Capability (new mission) (with OC-130 KEEN SAGE Aircraft)	67%

Air National Guard (ANG) Provides (Cont)

KC-135 Air Refueling Tanker Capability	43%
Air Force Total Fighter Capability (A-10, F-16, & F-15)	34%
Rescue C-130 and Helicopter Capability	24%
CONUS Real-time Imagery Exploitation and Dissemination	33%

b) Air Force-wide Equipping Policy: In the Fiscal 2000 Defense Authorization Act, Congress directed the services to "conduct a comprehensive examination... of the national defense strategy, force structure, force modernization plans, infrastructure, budget plan, and other elements of the defense program and policies of the United States...". As an integral part of this "examination", the Quadrennial Defense Review (QDR) process, the Air Force is working smartly to maintain its combat force while facing many fiscal challenges. It stood up its QDR office in February 2000, at the Pentagon. The office is responsible for preparing the Air Force for the 2001 QDR; it reports to the AF assistant vice chief of staff. The review, scheduled to begin in January 2001, will help the new presidential administration and Congress determine the defense strategy of the United States and establish a road map for the defense program over the next 20 years. The ARC is very much a part of this bottom-up requirements review process. Unit representatives meet annually at the ARC Weapons and Tactics Conference and Air Force Reserve Combat Planning Council where requirements for their weapon systems are generated. Typically, the ARC acquires equipment in four ways:

- Congress appropriates funding to the Air Force for specific ARC requirements.
- The Air Force plans, programs, and budgets for the modifications of existing ARC weapon systems. Included in this process are assets that are transferred from the Active component to the Reserve and Guard.
- A single year procurement appropriation provided by Congress for the National Guard & Reserve Equipment Appropriation (NGREA) (Appropriation 0350).
- Congressional adds to the active duty component's account for reserve component equipment.



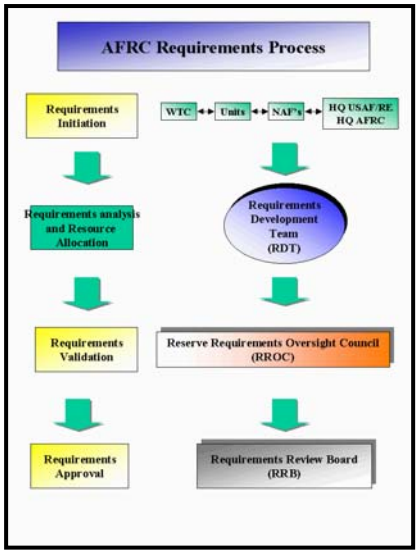
While the list of desired new weapon systems and modifications to existing platforms continues to increase, the ARC remains in a fiscally constrained environment with no near term solution. The Reserve components recognized the need to formalize their procurement process to better fit with the Active component's planning, programming, and budgeting process. Modeled after the six AF core competencies, the

ARC developed a simple and effective communication tool for use in defining ARC combat requirements. This tool is referred to as the Combat Quadrangle (CQ). The CQ consists of four core elements required by the current warfighting Commanders in Chief (CINC).

When in a combatant CINC's theater of operation, the Active and Reserve component forces must have the capability to:

- Employ precision strike.
- Employ 24-hour operations.
- Employ and survive in a complex threat environment.
- Employ with information dominance capability.

The ARC identifies and sorts requirements in each of the core elements and then prioritizes their relative value to the overall ARC mission. The top requirements are submitted to the AF and major commands to compete against other AF requirements for inclusion into the budgeting process.



In addition to the above equipping procedures, the Air Force Reserve Command (AFRC) implements an internal requirements validation process that focuses on integrating operational requirements into the overall AF programming and planning process. Requirements are initiated at the unit level, which are then filtered and prioritized by the Numbered AF through the Combat Planning Councils. Requirement proposals, including aircraft modifications at any level of the command, are submitted to the applicable AFRC functional areas. Proposals that receive lead command concurrence, but are not funded, may be considered for AFRC funding. A team of action officers makes up the Requirement Development Team (RDT), which evaluates each requirement. The RDT analyzes requirements for concept of employment, sustainment, and resource allocation. The Reserve Requirements Oversight Council (RROC) then validates these requirements at AFRC Headquarters. The RROC approves three priority lists: procurement, engineering, and studies and analysis. The RROC presents its recommendations to the Reserve Requirements Review Board (RRRB). The RRRB, chaired by the Chief of Air Force Reserve, has the approval authority for command requirements, funding, and execution. These requirements are then submitted through the Active component counterpart for incorporation into the budgeting process.

c) Service Plan to Fill Mobilization Shortages in the ARC: The ARC relies on the AF, DOD, and Congress to modernize and equip its fighting forces. Funding for the modernization of equipment remains a top priority for the ARC. Although AF program funding for upgrades have been crucial in prolonging the service life of many ARC

assets, funding remains well below the level at which the ARC needs to resolve many of its readiness and operational shortfalls. NGREA funding has traditional been a critical lifeline to ARC modernization. However, within the past several years, the ARC has seen significant downward trends in NGREA funding that resulted in many unfunded priorities. Several critical modernization programs initiated in FY 1999 and 2000 have gained momentum and will begin fielding in the upcoming years. In the same fashion, many programs will have to wait until necessary funding becomes available.

The criteria for providing the necessary resources to the ARC parallels the Service's total requirement to support the two-Major Theaters of War (MTW) scenario, while meeting peacetime operating requirements, affordability, and policy. The AFRC and the ANG maintain readiness for deployment across all units. ARC resources are deployed as an integral part of the total AF and are heavily relied upon within the AEF concept. In this case, AF resources (both Active and Reserve components) are distributed into the ten AEFs. These AEFs are pools of resources from which assets will be deployed on a rotating basis.

Specific decisions in addressing modernization shortfalls in the ARC result primarily from the Planning, Programming and Budgeting System process as influenced by the National Security Strategy, National Military Strategy, as well as the comprehensive results of internal Service support assessments and war games. Specific Service criteria are based on such elements as force structure, mission assignments, Joint Exercises, end strength, training requirements (skill-level proficiencies), unit conversions, and transition costs.

At the present time, the ARC is ready to support most operational missions. There are several unfunded requirements and equipment needs that need to be addressed. Until these issues are resolved, the ability for the ARC to continue as a viable partner will be uncertain.

d) Current Service Initiatives Affecting RC Equipment: To ensure a credible warfighting capability as a complete and united force, the AF must commit to modernizing its reserve forces. There are several modification efforts underway that will resolve reliability and maintainability issues for all aircraft. Many of these programs will benefit the ARC's fleet of older aircraft. These modifications reflect a well thought out concept through a combination of either replacing unreliable equipment with more supportable solutions or improvement of aircraft capability with more advanced technology. Modifications affecting ARC aircraft include:

C-5 Avionics Modernization Program (AMP). This is a modification consisting of two major efforts. First, replace older and low reliability components in the augmentation systems and the flight and engine instrument suite. Second, it installs safety equipment: Traffic Alert and Collision Avoidance System (TCAS) and Terrain Awareness and Warning System (TAWS). This program will affect 82 active duty C-5s; 32 AF Reserve aircraft and 12 ANG

C-5A

planes. This effort is scheduled to complete at the end of FY 2002.

C-5 Reliability Enhancement Re-engining Program (RERP). The reliability of the C-5, in particular the A-Model, is a top concern. The C-5 is to be re-engined with General Electric CF6-80C2 engines. The re-engining effort is expected to be in full swing by 2003. Installation of the new engines also requires minor structural upgrades. Re-engining will significantly improve the C-5's performance and comply with FAR 36, Stage 3 noise regulations. Other portions of RERP will improve the Galaxy's mission-capable rate. Currently, the AF is planning to begin this program on C-5Bs. The ANG and active AF own C-5B assests. Upon the completion of the B configuration modifications, the AF will determine the economic benefit of upgrading the AFRC C-5A's.

KC-135 Refueling F-16

KC-135 PACER CRAG (Compass, Radar, and GPS). This is a combined Global Air Traffic Management, navigation, and safety program that replaces a number of navigation avionics. It adds Global Positioning System (GPS) receiver and terrain awareness navigation tools, like the TAWS. Software changes are also accomplished to allow GPS use as a primary means of navigation. This program supports 270 Active duty KC-135s, 70 AFRC aircraft, and 223 ANG aircraft.

C-141 Aircraft Service Life Extension Modifications. Air Mobility Command (AMC) identified a core of 63 ARC C-141C aircraft that will remain in the inventory through FY 2006. They will remain an integral part of the strategic airlift forces until the C-17 is fully fielded. The core 63 aircraft, which include both ARC aircraft, are currently receiving four concurrent modifications required to keep them flying until the C-17 transition is complete.

One of the biggest challenges for the AFRC is the fate of its C-141 flying community. As the C-141 drawdown begins, the AF currently has no plan to address a replacement mission for the C-141 aircraft, aircrews, or support personnel.

A-10 Aircraft Embedded GPS/INS. Currently in the installation phase, this modification will improve navigation accuracy, reliability and maintainability. The current navigation system (the LN39) will be replaced with a ring laser gyro and GPS capability. Mean time between failures (MTBF) is increased from 126 to 6000 hours and accuracy is improved from .6NM/hr to 5m Circular Error Probability. Installations will continue through FY 2001 for all A-10 aircraft.

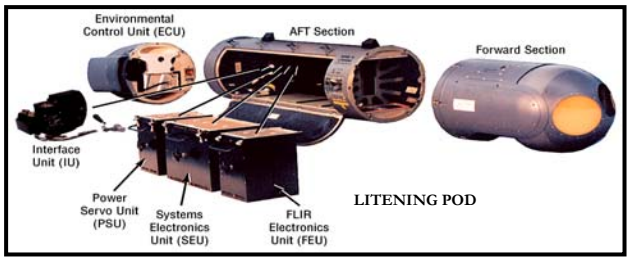
In addition to AF procurement funding, Congress

provides through the NGREA a timely means of procuring equipment for upgrades to current ARC platforms. The NGREA is directly responsible for the ARC's success in staying ahead of the threat, meeting warfighting CINC taskings, and sustaining 24-hour operations. The NGREA has allowed procurement of a Precision Strike capability, a Datalink capability, a Countermeasures Management System (CMS) capability, a Night Vision capability, and other essential capabilities to meet EAF requirements.

NGREA funding has helped the following ARC programs:

F-16 Aircraft

Precision Attack Targeting System (PATS): PATS is the ANG's number one modernization priority. PATS will use the Litening II Targeting Pod, which is "plug and play" on the F-16 Block 30 aircraft. A total of 64 Litening II pods were procured. It has two level maintenance supports, an infrared (IR) and electro-optical operating capability, a laser spot tracker, and significant additional performance improvements and technological enhancements. The ARC will eventually equip all Block 25/30 general-purpose units with 8 pods apiece. The future PATS pod solution will be the Advanced Targeting POD. The AF is currently in the process of acquiring this capability.



Through a joint effort between the Active Air Force and AFRC, the PATS program is also in full swing for the AFR. By the start of the new millennium, AFRC's F-16 Block 30 fleet will enjoy the new capability of precision strike technology. The AFRC program is projected to complete by the end of calendar year 2000. PATS was AFRC's number one operational priority for the F-16 and will be the platform for lessons learned for the A-10 program.

Combat Upgrade Plan Integration Details (CUPID): CUPID combines four F-16 Block 25/30/32 modifications (GPS, CMS, SADL, and NVIS) into one modification speed-line, resulting in a Combat Air Forces (CAF) Block 30 fleet common configuration. The CUPID modification includes:

Global Positioning System (GPS): This program installs an integrated GPS/INS (Inertial Navigation System) solution into F-16 block 25/30/32 aircraft. Reducing the reliance on conventional navigation systems, this modification will provide the ability to deliver GPS-aided munitions, specifically Joint Direct Attack Munitions (JDAM) and the Joint Stand Off Weapon. The supporting software improvement was programmed in Software Configuration Upgrade-4 installed in September 2000.

Countermeasures Management System (CMS): This modification replaces the individual electronic combat cockpit control units for the ALR-69 radar warning

receivers, electronic countermeasure pods, and ALE–40 chaff/flare dispenser systems with a single control panel in the F-16 Block 25/30s and A-10s.

Night Vision Imaging System (NVIS): F-16 interior and exterior lighting is being modified to be compatible with the operational use of Night Vision Goggles (NVG), allowing full mission employment in both air-to-air and air-to-ground scenarios. The lighting design integrates compatible lighting external to the instruments and controls in the cockpit. Exterior aircraft lighting allows for both covert and overt operating modes using filters.

Situation Awareness Data Link (SADL): SADL is a low cost data link that uses the Enhanced Position Location Reporting System (EPLRS) radios to prevent fratricide and enhance situational awareness, while providing accurate combat identification capability. This system is secure, jam resistant and has a low probability of intercept. It provides fighter-to-fighter, fighter-to-ground, and ground-to-fighter connectivity.

Theater Airborne Reconnaissance System (TARS): The TARS program has been consolidated in two units, Richmond, VA, and Selfridge, MI. Three additional ANG units (Terre Haute, IN, Andrews AFB, MD, and Sioux City, IA) will be equipped with 4 TARS pods and 1 ground station when additional funding is acquired.

Improved Data Modem (IDM): The IDM is being installed on the ANG Block 40/42 fleet. The IDM brings combat ID and battlefield critical information inside the cockpits in a secure, non-voice mode. Integrated with other current data transfer modes, IDM will allow enhanced situation awareness and wartime viability in the "data intensive, no voice" scenario for the Block 40/42 fleet. IDM installations begin in FY 2001.

Towed Radio Frequency (RF) Decoys: Towed decoys are important in our ability to protect fighters from RF guided missiles. The ALE-50 RF towed decoy is currently fielded on F-16 Block 40/50. Air Combat Command (ACC) has now funded a software integration of the standard F-16 ALE 50 pylons into the F-16 Block 30 aircraft. This software will field in FY 2001. ACC is funding pylons for the entire F-16 Block 25-52 fleet to support training and deployment requirements.

F-16 Pylon Integrated Dispensing System (PIDS) Universal: The ARC must have both increased infrared missile countermeasures and precision weapons on their F-16s. In 1994 and 1995 the ARC purchased 310 F-16 PIDS for increased countermeasures on F-16 C/D Block 25/30s. Now PIDS requires Mil-Std-1760 precision weapons capability. In support of this requirement, the F-16 program office is beginning a development program with the F-16 European Participating Nations (Belgium, Norway, Netherlands and Denmark), called the PIDS Universal, to integrate Mil-Std-1760 capability into PIDS. The PIDS Universal configuration will also include some growth provisions for adding a missile warning system in the future. ACC

F-16

recognizes the need for this upgrade but has not identified the resources to carry fund this effort.

A-10 Aircraft

Integrated Flight and Fire Control Computer: The current aircraft computer has reached its throughput and memory limits. A replacement is necessary to continue future avionics improvement modifications. A standardized, commercial-off-the-shelf (COTS) processor/interface will allow future improvements to be integrated via software changes only. The ANG is planning to begin procurement in August 2001.

Precision Engagement: This program combines a series of modifications into one process/program similar to the process of the CUPID program that is being accomplished on Pre-Block 40 F-16's for the ANG. This is a CAF program that maximizes production in minimum time, keeping the down time and time away from home station at a minimum, allowing the highest availability of airframes for the using units. The combined modifications are the Digital Stores Management System (DSMS), 1760 Bus, SADL, Targeting Pod integration, JDAM/WCMD Integration, and DC Power upgrade. Full Production and IOC occurs from FY 2004 to FY 2007.

1760 Bus Integration: This program includes replacing the Armament Control Panel, a high failure item, with a digital Stores Management System and incorporating a multi-function display (MFD). This capability will allow future integration of smart/wind corrected munitions, as well as the JDAM and AIM-9X.

Countermeasures Management System: CMS replaces individual electronic combat (EC) cockpit control units for the ALR-69 radar warning receiver, ECM pods, and the ALE-40 chaff/flare dispenser system, with a single control panel. The CMS modification increases aircraft survivability by centralizing these control functions, modernizing the chaff/flare dispenser system, and having NVG-compatible displays. In addition to the above capabilities, the ALQ-213 lays the foundation for an integrated electronic combat suite that will one day optimize the overall EC response to the specific threat scenario at hand. The ANG and AFR started installations in October 2000 and expect them to be completed in two years.

F-15 Aircraft

Fighter Data Link (FDL): The FDL program is the key to future effective combat employment for the F-15. The need to tie together off-board and on-board sensors and to synthesize the resulting data into a clear picture of the entire engagement is essential to the F-15 pilot operating under the Combat Identification (CID) Rules of Engagement found in every theater of operation. "First look-first shoot" tactics are valid for both the F-15 and F-22 and require a robust CID capability. Operational tests and exercises consistently provide clear evidence that the FDL increases the kill ratio for the F-15 many times over the current capability, ensuring the

Fighter Data Link

F-15's lethality well into the 21st century. The AF began purchase of the FDL for the Active component F-15s in FY 1998. To ensure total force compatibility within the AEF, the ANG has also begun purchases of the FDL.

Night Vision Imaging System: The NVIS Lighting Program modifies F-15 interior and exterior lighting to be compatible with the operational use of NVG. With this modified lighting, F-15s will be able to operate in the full range of air-to-air mission scenarios. The NVIS cockpit lighting provides NVG compatible lighting external to the instruments and controls in the cockpit. The exterior lighting includes a covert lighting mode and filtering to make the normal aircraft lights NVG friendly.

All Fighters

Helmet Mounted Display System (HMDS): The ARC is exploring opportunities to study and test COTS HMDS for potential integration into their fighter fleets. This HMDS will integrate existing fighter MFDs, sensors, and night vision capability. It will be lightweight, have potentially lower cockpit mapping costs, and meet all ARC requirements for airworthiness in a fast jet.

B-1 Aircraft

Beyond Line-Of-Sight (BLOS): This system provides BLOS data link communications for the B-1. The Active Air Force is currently testing a system.

B-1 Bomber

Color Airborne Video Tape Recorder (CAVTR): The CAVTR system records aircraft information via a high-resolution color camera thus providing accurate, full mission recording capability. An inexpensive but viable system was tested on a 184th BW bomber. ACC submitted a modification proposal to the System Program Office (SPO) with funding. The SPO will forward it to Boeing once the money is released by OSD.

Additional Chaff Modules: With the change in mission profiles for the B-1, additional chaff modules are required to ensure self-protection. Each B-1 was delivered with only two chaff modules. Two more chaff modules per bomber, with maintenance spares, are required.

Additional Weapons Modules: The two ANG B-1 units do not have sufficient numbers of 28-carry weapon stores modules. An additional 10 modules are required, as a minimum, to provide mission flexibility for the units.

KC-135 Aircraft

KC-135 Refueling C-5

Global Air Traffic Management (GATM) Modification: This program will provide an upgraded avionics suite that meets the requirements for aircraft interoperability within the future aerospace environment. The avionics suite will be improved in four major functional areas: communications, navigation, safety and surveillance, and flight deck control. The program includes controller-pilot data link communication, direct voice communication with air traffic control, required navigation performance, and automatic dependent surveillance.

KC-X Aircraft: A Tanker Replacement Team comprised of the ARC, AMC, and HQ AF personnel has been formed to expedite the introduction of a new dual mission (refuel/cargo) tanker into the USAF. The Replacement Team is focusing initial efforts on writing the Mission Needs Statement and Operational Requirements Document.

C-130X

Phase I - Avionics Modernization Program: This Program will produce a baseline avionics configuration across the current C-130 fleet. AMC, in coordination with ACC, ARC, and Air Force Special Operations Command, is undertaking the C-130 AMP to consolidate all E, H1, H2, and H3 aircraft into one configuration. The goal is to consolidate existing and projected aircraft modification programs in order to upgrade and standardize the aging C-130 fleet.

Phase II - Structural, Engines, and Environmental Improvements: Phase II is designed to bring all older C-130 variants to the same basic aircraft systems configuration to increase reliability, maintainability and supportability, and performance. Phase II will compliment the standardization effort of Phase I. All older C-130s will be equipped with the systems now present on C-130H aircraft. The upgrades would provide T56-A-15 engines, an increased capacity flight deck air-conditioner, Auxiliary Power Units, and improved hydraulics.

C-26 Aircraft

Forward Looking Infra-Red (FLIR): The C-26 Westinghouse WF-360 FLIR camera was replaced with a Westcam "Skyball". This program is now complete. The upgrade also included a sensor controller operating system upgrade, touchscreen technology, emergency battery backup, Wulfsburg AM/FM/HF/VHF/UHF radios, and fire detection/suppression for the FLIR pod.

Electro-Optical Photographic Cameras: A program is under way to augment the "wet film" capability of the C-26 with a digital camera. This technology will allow digital pictures to be taken and printed onboard the C-26, thus saving days of wet film processing time and allowing law enforcement agents to leave the aircraft with hard copies of imagery data. Aircraft modifications are scheduled to start in FY 2001 with completion in FY 2002.

West Virginia C-26 Aircraft: Congress provided funds in the FY 2001 Appropriations Act for the upgrade of the West Virginia Air Guard C-26A to the Counter-Drug configuration. Planning for this project is underway.

HH-60 Aircraft

Helicopter Upgrades: The 701C Engine Retrofit and Improved Flight Controls Program replaces existing engines and improves flight control systems. The HH-60's performance is significantly degraded by the additional weight from various previous aircraft upgrades. The new engines have 20 percent more power providing for a greater margin of safety on hot days and at high altitude.

HH-60G Supporting Army troops

Flight Engineer Seat Safety Modification: The AFRC will replace its fleet of HH-60G flight engineer and gunners seats with an energy absorbing crashworthy seat that is fully mobile. The new seat can move fore and aft, rotate 360 degrees, and have the five-point gunner's restraint harness.

HC-130 Aircraft

Rescue System Upgrades: A low cost NVIS Compatible Lighting System modification is in the contract phase for the CAF rescue fleet. A Personnel Locator System will be installed on Kulis, AK, and Moffet, CA, aircraft. This system will give rescuers bearing, range, and authentication information on downed aircrew equipped with the PRC-112 survival radio.

HC-130 Electronic Warfare (EW) Management System (EWMS): AFRC HC-130 aircraft are especially vulnerable to threats in the electromagnetic environment, both IR and RF. The nature of the evolving threat drives continuous focus on upgrades. The

EWMS effort undertaken by AFRC will link all EW assets and provide integration and management of threat displays and responses.

WC-130 during lightning storm

WC-130J Procurement: The AF's primary and only Weather Reconnaissance Squadron is operated by the AFRC at Keesler AFB, MS. The AFRC currently has ten C-130H aircraft dedicated to this mission. Congress has provided funding to procure and replace their C-130H's with new WC-130J aircraft over the next two years.

Four of the WC-130J model aircraft have been delivered to the AFRC and are now located at Keesler AFB, MS.

All Combat Aircraft

Night Vision Goggles: The ANG has completed procurement of 4949G model NVGs to complement their on-going aircraft NVIS program. Final deliveries should begin in March 2001. This will provide each unit one set of goggles per crew position per authorized aircraft assigned. This procurement is critical to filling the "24-Hour Operations" requirement set forth by warfighting CINCs. The NVGs are allocated to rescue, fighter, bomber and NVIS modified C-130 aircraft, respectively. However, support equipment continues to be a concern. Each unit has at least one set of support equipment but is authorized two sets. This program is on going as money becomes available.

AFRC has been procuring NVGs since FY 1996 as a multi-year procurement effort. NVGs are critical to aircrews in virtually all of AFRC's combat platforms. NVGs have been procured for HC-130s, HH-60G rescue helicopters, C-130s, A-10s, F-16s, and B-52s.

e) Service Plan to Achieve Full Compatibility between AC and RC: Operational assets within the AF inventory are fully compatible to perform AF missions. The ARC generally has older equipment with less capability (when compared to the Active fleet) in the areas of precision strike, combat ID, 24-hour operations, and high threat survivability. Current programs funded by NGREA and the AF will solve many of these issues with non-developmental solutions. The situations discussed below are worthy of attention for both the ARC and Active AF.

Precision Strike Capability: The majority of ARC F-16 units continue to be excluded from contingency and combat operations requiring precision strike capability. The answer to this shortfall is the PATS targeting pod program. This program is critically underfunded, and, until funding is increased, the ARC will continue to be excluded from

vital combat and combat support operations. For example, the ANG had three block 25/30 F-16 units scheduled for a rotation into Southwest Asia during January – March 1999; however, these units were removed from the rotation because they lacked precision strike capability. These block 25/30 F-16's have the required software but not the required PATS pod to execute the mission. PATS remains the number one modernization priority for the ANG.

F-16 A/B Aircraft: The F-16 A/B is a 20+ year-old aircraft and is a serious interoperable roadblock for the ANG. The F-16 A/B is at the end of its design life, and the internal components do not match AF F-16 components inventoried at AF logistics centers. This results in an uncommon logistics trail causing delays, increased costs, and inefficiency within theaters of operations. Replacement of the F-16 A/B fleet is a top priority of the Air Staff.

Ground Tactical Unit Operations: A mission of the Tactical Air Control Party (TACP) is to provide critical air-to-ground links between fighter aircraft and the ground forces commander. These air-to-ground links increase aircraft survivability and reduce fratricide. Currently, there are no plans for the Active forces to field SADL radios with TACP units throughout the combat AF; even though SADL (as an off-the-shelf technical solution) is ideally suited to perform the TACP function and increase situational awareness of both the ground forward air controllers (G-FAC) and mission pilots. ACC's position on equipping TACP units (G-FACs) with the needed capability is to wait for the development and fielding of a Joint Tactical Radio System (JTRS). The JTRS is a concept programmable radio system that will operate from the 1.5 MHz to 2 GHz spectrums. JTRS will be capable of receiving both SADL and LINK-16 data. The present funding line for JTRS is to begin in FY 2003 with fielding to follow in FY 2005 and beyond. The ANG is working on a concept to prove the feasibility of incorporating a SADL radio into the present TACP radio pallet (GRC-206v5).

Intelligence: As the AF continues to modernize and cascade older generation equipment to the ARC, there is a concern that lack of modernization funds will result in a diminishing return of quality, compatible equipment for the ARC. Today the Senior Scout platform is a textbook example. This system was transferred to the ANG to provide training opportunities for a Utah ANG unit and to continue support for Counter Drug operations. The unit has multiple taskings to participate with EC-135 Rivet Joint (RJ) aircraft flights. Without modernization funds, Senior Scout has become less and less compatible with the RJ aircraft in the operator interfaces, data links, and mission upload processes. Although some funds have been mandated for continued operations, lack of sufficient funds to upgrade the equipment may result in an insufficient capability to continue to be useful in fulfilling its mission.

In unit intelligence programs, the ARC has received the Combat Intelligence System (CIS) in common with the Active units. However, the delivery schedule slipped to the point where the Active units received third generation CIS computers before the ARC completed its first generation system delivery. Those machines were subsequently found not to be year 2000 compliant and are now being replaced with a personal computer-

based system provided by the major commands. These machines will be compatible with the force level Tactical Battle Management Communication System. Additionally, communications connectivity to classified internet circuits was not programmed for the ANG, resulting in a workaround dial-up modem solution continuing for several years. To date, only four of 60+ ACC-gained ANG units have direct connections to the classified internet, while all Active units have been connected for years.

Electronic Warfare: Much of the AF's electronic warfare equipment including the ARC's, is aging and requires affordable sustainment or modernization upgrades to take care of obsolete parts, to improve maintainability, and remain effective against complex and evolving threats. Solutions are needed that are compatible with multiple aircraft, like the current electronic attack pods (ALQ-131 and ALQ-184) and the ALR-69 radar-warning receiver. Common solutions will reduce cost of ownership by sharing costs for continuous threat reprogramming, software upgrades, parts and repair. The ARC philosophy is that self protection solutions, where possible, should be pod or pylon based so that they can be shared between deploying units without investing in expensive equipment for every combat coded jet. Current electronic warfare priorities include: covert infrared countermeasures for the F-15, F-16, C-130 and A-10; F-16 Radar Warning Receiver Antenna Optimization; electronic attack sustainment and modernization; radar warning receiver sustainment and modernization; and F-16 chaff weapons pylon upgrade with precision weapons capability.

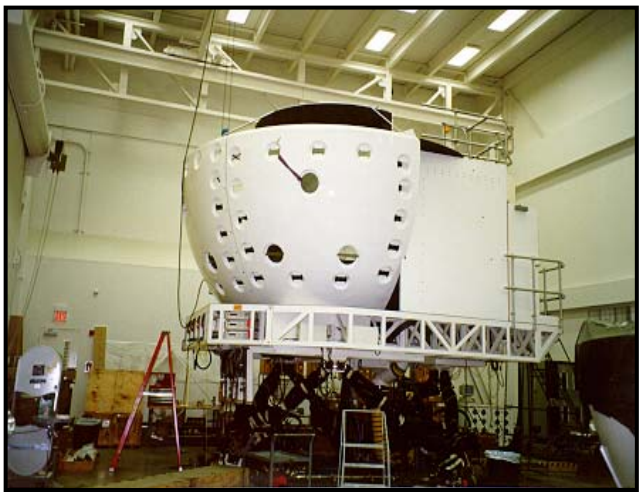
Medical Equipment: The ANG medical and aeromedical evacuation (AE) war reserve materiel (WRM) is programmed and managed by the Air Force Medical Service. ANG medical WRM is generally stored locally and can be utilized for training (AE squadrons only) and for its intended purpose. However, during the past four fiscal years, the AFMS received less than 50 percent of their validated medical WRM required funds. The lack of adequate medical WRM funds has severely degraded the AE Guardsman's ability to train with the equipment they will eventually deploy with upon activation. All ten ANG AE squadrons are now seeking to purchase the much-needed training equipment using local ANG Operations and Maintenance funds.

ANG medical non-WRM equipment includes items for training and home station care. With the exception of the medical x-ray system, all medical equipment is purchased utilizing O&M funds. The need to replace aging non-WRM medical equipment is growing more critical as the requirement for training equipment is increasing and O&M funds become more limited.

Training Systems

Training Equipment: The combat readiness of ARC aircrews is dependent on current and future training devices. All aircrews within specific weapon systems train to the same requirements and standards ensuring total force readiness. However, the ARC must also focus on the unique training needs of the individual Reservist and Guardsman, their location, employment, and weapon system, in order to provide quality training.

Ground Based Training: The Active AF generally procures training systems based on one simulator per Active wing or base (typically an organization of three or more squadrons). Since ARC units are generally organized with a single squadron per base, elaborate motion simulators are not always cost effective to procure and operate. Recognizing this, the ARC instituted a training concept designed to provide home unit training through Regional Training Centers (RTC).



C-130 H-3 Full Motion Weapon System Trainer

The AFRC took the lead in providing C-130 H2 and H3 training to aircrews with fielding of the C-130 H3 Unit Level Trainer (ULT) at Niagara Falls ARB, NY. This was the culmination of a streamlined and quick-to-the-fight acquisition approach where C-130H trainers were built and tested in an AF laboratory environment. This resulted in a well defined, effective, and low-cost ULT. The ULT completed the certification process and became operational in the winter of 1998. In addition, the C-130 community now enjoys robust and vigorous C-130H model training within a newly established 3-bay C-130 simulator facility at Dobbins Air Reserve Base, GA, at the Eastern Regional Flight Simulator Facility. This is the primary training facility for all C-130 H2 and C-130 H3 training. The Active AF has used this facility as a model for its training program.

Airborne Training: There are three tethered Air Combat Training Systems (ACTS) currently fielded at the Combat Readiness Training Centers (CRTC) in Gulfport, MS, Savannah, GA, and Volk Field, WI. ACTS allows aircrews to conduct instrumented air combat training while deployed to a CRTC. The distribution of the ANG-sponsored Personal Computer Debrief System (PCDS) has enabled ANG units within flying distance of a CRTC's range to take advantage of ACTS de-brief capability in their respective backyard range. The CAF is actively pursuing GPS based technology, with an interim system currently deployed at the Alpena CRTC. With GPS, aircrews and aircraft are no longer tethered to instrumented ranges with relay towers, but can fly and train in any airspace they desire and return home to a three-dimensional, computer-based mission debriefing, with unprecedented accuracy.

Simulators

Unit Training Device (UTD): In cases where training must be accomplished at the unit level, but sufficient equipment is not available and new procurement for such elaborate devices is too costly, the ARC has developed UTDs which incorporate core training requirements. These core-training requirements include air-to-air, air-to-ground (including radar navigation and deliveries), emergency procedures, high fidelity instrument procedures (including night operations), and EW training. Pilots can fly over real world terrain and familiarize themselves with potential areas of conflict (i.e., mission rehearsal). In anticipation of future training requirements, the UTDs are being designed with growth potential for Distributive Mission Training (DMT). These UTDs are very capable, motionless simulators that provide a cost-effective means of training aircrews for combat and contingency operations. The acquisition philosophy for these devices include procuring a large amount of COTS equipment and Non-Developmental Items, thus allowing low cost and high fidelity training systems at an affordable price.

Technology advances now permit low-cost trainer capabilities equivalent to traditional simulators at greatly reduced costs for both acquisition and support. In fact, the reduction in support costs alone justifies replacement of older simulators. The success of this low cost approach is evidenced by the proliferation of the F-16 UTD. This trainer is operational and is being used in 56 F-16C ANG, ACC, and Air Education and Training Command units. The ARC has been the front-runner in fielding high fidelity trainers in cooperation with the Air Force Research Lab at Mesa, AZ, for the A-10 UTD. This high fidelity, unit level device's success has led to active duty participation in development of an A/OA-10 UTD.

C-5 Simulator: The ANG has begun acquisition of a simulator at Stewart IAP, NY. This simulator will pay for itself in just a few years through logistics savings and extended aircraft life. The simulator will be ready for training in early 2001. The AFRC is in the final stage of its C-5 Simulator fielding effort. The latest C-5 simulator has been delivered to Kelly AFB, TX, and is going through final installations and testing. Activities in preparation for training are also taking place and projected to be ready in Feb 2001.

Full Mission Trainers (FMT): The combat-coded F-15 fleet uses the FMT as its primary trainer. Similar in size and functionality to the UTD, the FMT provides training in instrument and emergency procedures, with additional tactical training capability not found in the UTD. The ultimate objective is to make the FMTs DMT capable to enhance the quality of training at the units. The analysis to determine the modifications required to use DMT is ongoing.

Weapon System Trainer (WST): WSTs are currently employed at ARC regional training centers and are used to train aircrews from multiple units. The regional training approach reduces cost, but requires aircrews to travel away from their home unit for training. The large travel costs involved prevent sending some members of the crew for training, which has a negative impact on crew resource management. However, regional

training centers are currently still the most cost-effective approach to meeting ARC training requirements.

Two C-130 RTCs, utilizing the C-130 WST, provide training for ARC units. The first center, operated by the ANG at the Minneapolis-St. Paul International Airport (IAP), became operational in 1993. This center serves units in the north and northwest United States.

For the second C-130 RTC, the ARC procured both C-130H2 and C-130H3 simulators, located at Dobbins AFB, GA, which were delivered in April and November 1999, respectively. Both systems are the first ever to have the current configurations of the aircraft being flown.

The ANG operates a KC-135R RTC at Meridian, MS. Additional centers are being planned for Pease ANGB, NH; Milwaukee IAP, WI; and March AFB, CA.

Computer Based Training (CBT): RTCs will be augmented by CBT at all ARC units, including KC-135 units. The CBT program of the ARC is the lead effort for AF programs of the future. Currently, KC-135E aircrews lack regional or unit level trainers and must rely on the American Airlines Training Center in Dallas, TX.

Multi-Task Trainer (MTT): The AFRC, AF Research Laboratory, and the ACCs Training Systems Center jointly developed The F-16 MTT Program. Five MTTs have been fielded and are fully operational. They serve as primary simulation trainers providing basic cockpit and emergency procedures.

The A-10 MTTs, based on the F-16 MTTs concept, have been the workhorse trainers for AFRC A-10 fighters. Two A-10 MTTs are operational at the 47th FW at Barksdale AFB, LA.

The challenge AFRC is confronted with at this point is the lack of funding to provide for upgrades and repairs as a result of either wear and tear or as part of normal configuration updates.

Air-to Air and Air-to-Ground Combat Training Range Enhancements

Alpena Kadena Interim Training System (AKITS): AKITS is a GPS-based air combat training system, which provides the Alpena, MI, CRTC with a state-of-the-art air instrumentation and mission debriefing system. AKITS will allow the Range Training Officer to monitor live time-space-position information data from participating aircraft and communicate through three UHF (Have Quick capable) radios to all players within Line-of-Sight of the Alpena CRTC. This system also allows aircrews to record all mission data (including missile shots and target kills) and replay this data through a three-dimensional computer displayed debriefing. Alpena has taken advantage of the de-brief and rangeless capability of the AKITS by deploying the system to remote locations, including the Flight Training Units at Springfield, OH, and Kelly AFB, TX. AKITS is

currently carried by ANG F-16s and F-15s at Alpena, MI. The ANG has enhanced this interim system with an additional 10 pods (for a current total of 24), which will allow AKITS capability to be available to aircraft not equipped with a 1553 bus (for example, A/OA-10s).

Joint Tactical Combat Training System (JTCTS): JTCTS is a GPS-based, encrypted ACTS which will allow ANG aircraft to train in backyard ranges with Navy, as well as other AF aircraft. This is a joint program between the Navy (lead service) and the Air Force. JTCTS will allow aircrews to train anywhere in realistic combat conditions using tactics associated with the Advanced Medium Range Air-to-Air Missile. This system also includes UHF/VHF Real-Time Kill Notification, No-Drop Weapons Scoring, and a capability for 100 plus "real-time" aircraft participants (F-18, F-14, F-16, F-15). The Alpena CRTC will be one of the first AF locations to receive JTCTS, to replace AKITS. The Full Operational Capability will include 36 air instrumentation pods, three debriefing stations, and a live monitor capability. Future JTCTS capabilities will allow for exercise integration of surface and subsurface naval vessels to ensure total force and composite training between the Air Force and Navy.

Unmanned Threat Emitter (UMTE): To provide more realistic training to combat aircrews, the ANG currently owns a small complement of UMTE systems located at the Volk Field, WI, CRTC. This system generates target tracking and missile guidance RF signals that illuminate an aircraft and energize that particular aircraft's Radar Warning Receiver. These RF signals are programmed to act and react like the real world (red) ground-to-air threats that aircrews might encounter during combat and contingency operations. Current efforts continue to upgrade the UMTE and to maintain it as a viable threat emitter, while continued technological advances allow for improvements to real world threats. Among the current upgrades are visual tracking and feedback capability and ECM validation information.

Mobile Threat Emitter System (MoTES): Unique to the ANG, MoTES is similar to the UMTE system; however, the threat emitter is located on a platform to allow rapid movement from one location to another. Since several units are located in close proximity to the CRTC ranges and use them on a daily basis, a mobile platform is necessary to ensure that threat locations can change from day-to-day, as necessary, to prevent training from becoming routine. Two MoTES are operational at the Gulfport, MS, CRTC. Current efforts are also underway to upgrade MoTES in order to maintain it as a viable threat emitter, while continued technological advances allow for improvements to real world threats.

Multiple Threat Emitter System (MUTES): These systems are manned threat emitters and are located at Smoky Hill Range. They are also assigned to the 266th Range Squadron (RANS), Idaho ANG, to operate in support of ACC's Saylor Creek Range. This system generates anti-aircraft gun and target tracking/missile guidance RF signals that illuminate an aircraft and energize that particular aircraft's Radar Warning Receiver. These RF signals are programmed to act and react like the real world (red) ground-to-air threats that aircrews might encounter during combat and contingency operations. The

systems assigned to the 266th RANS are available for deployment to other ranges in support of exercises.

Threat Reaction Analysis Indicator System (TRAINS): The in-flight reliability of ECM pods cannot be reliably checked on the ground. TRAINS provides this required air-borne check of ECM pods. It is designed to work in conjunction with a ground-based threat emitter (such as MUTES) and to analyze the RF response from the aircraft's electronic countermeasure systems. It can also provide threat validation, spectrum surveillance and spectrum support. TRAINS is operated at Smoky Hill Range and by the 266th RANS.

Distributive Mission Training (DMT): DMT will be a component of the Joint Synthetic Battlespace. It will provide a shared training environment comprised of live, virtual, and constructive simulations. DMT allows warfighters to train affordably and realistically, individually or collectively, in the AF's core competencies (Air and Space Superiority, Global Attack, Rapid Global Mobility, Precision Engagement, Information Superiority, and Agile Combat Support). DMT will simulate a full range of tasks to include complex, high intensity aerial warfare for the basic AF fighting unit, and provide unconstrained training for all tasks that cannot be accomplished in actual flight training without extraordinary cost or risk. The system will allow warfighters to practice or conduct simulated real-world missions by networking multiple simulators and other training devices with live aircraft. DMT will realistically simulate underlying environmental factors and processes such as weather, terrain, infrastructure, navigation, and command and control. To support the exercise of engagement-level decision-making, DMT will credibly represent all applicable Air Force Manual 1-1 missions. Current AF DMT efforts include a DMT "first-look" utilizing F-15C FMTs located at Eglin AFB, FL, and Langley AFB, VA. The ANG training unit at Kingsley Field is purchasing a DMT system similar to the system used by the active F-15 combat-coded units. The E-3 AWACS is also DMT capable allowing a virtual air-to-air training network for all of the DMT equipped facilities. The ARC is actively participating in all DMT planning conferences and meetings to ensure DMT remains a total force training philosophy.

II. Air National Guard (ANG) Overview

a) Current Status of the ANG: The mission of the National Guard, first and foremost, is to be prepared as a member of this nation's military team to fight and win. The ANG must be able to meet its state and federal obligations at a moment's notice. The ANG has 1170 aircraft supporting all facets of DOD, government and state missions. These aircraft are tasked to accomplish missions in support of combat taskings, Special Operations, Rescue, Airborne Firefighting Support to the US Forest Service, Counter-narcotics, Flying Training, Operational Test and Evaluation, etc. Filling its Aerospace Expeditionary Force (AEF) obligations is the ANG's number one priority and its equipping philosophy continues to center around fulfilling the warfighting Commanders-in-Chief (CINC) requirements via the Combat Quadrangle (CQ). The tenants of this quadrangle include Precision Attack, 24-hour Operations, Data Link/Combat ID, and Enhanced Survivability.

(1) General Overview: Lack of some critical warfighting capabilities in the ANG's fighter aircraft precluded direct participation in Kosovo operations; however, missions involving air refueling and airlift fleets were directly supported. At the present time, over 70 percent of the ANG flying units are tasked as part of the AEF rotation. Future participation in the AEF concept will be related directly to the ability to modernize ANG equipment to fit package requirements. Without these major upgrades, ANG participation will be significantly diminished. The ANG is pursuing an aggressive modernization program for all its systems under the framework of the CQ.

(2) Status of Equipment: The following paragraphs synopsize the Major Items of Equipment (MIE) within the ANG and the ongoing efforts to upgrade and modernize the force.

(a) Equipment On-hand

1. Fighter/Attack/Bomber Aircraft

F-16 Aircraft: The ANG has over one third of all Combat Air Forces (CAF) F-16 aircraft. These aircraft range from the older F-16A model to the more capable F-16, Block 52.

Block 25/30: The majority of ANG F-16 aircraft are the Block 25/30 aircraft type. This block of aircraft is receiving the Global Positioning System (GPS), Countermeasures Management System (CMS), Night Vision Imaging System (NVIS), and Situation Awareness Data Link (SADL) as part of the trend setting Combat Upgrade Plan Integration Details (CUPID) Program. These aircraft will see a dramatically increased combat capability with CUPID and with the recently acquired targeting pod (Litening II) from the Precision Attack Targeting System (PATS) Program. CUPID is funded through NGREA and AF program funding. PATS began as a NGREA only project but has received funding assistance from AF funding additions. The ANG is currently attempting to increase ATP funding in the FY 2002 budget. When fielding is complete, the Block 25/30 aircraft equipped with PATS and CUPID will be as capable as any other F-16 in the AF inventory. The Block 30 fleet will be capable of employing GPS aided munitions in FY 2003.

Block 40/42: The Block 40/42 aircraft are currently equipped with targeting pods (precision strike) and already have GPS navigation capability. The Block 40/42 fleet will receive GPS aided munitions capability in FY 2001. The Common Configuration Improvement Program (CCIP) will field Link 16 data link, color displays, AIM 9X capability and a variety of other programs beginning in FY 2004. In the interim, the ANG is funding the AF standard Improved Data Modem with NGREA and AF funding assistance. Again, programmed improvements will keep ANG aircraft AEF ready.

Block 50/52: The Block 50/52 fleet will receive CCIP beginning in FY 2001. The ANG will reach Initial Operational Capability (IOC) with the High Speed Anti-Radiation Missile (HARM) Targeting System (HTS) in approximately one year. This is a crucial combat capability in high demand by all warfighting CINCs.

A/OA-10 Close Air Support Aircraft: The ANG accounts for 30 percent of the CAF A-10 inventory. All A-10 units are currently equipped with Night Vision Goggles (NVG) and NVG compatible lighting. The A-10 will soon be equipped with a new fire control computer, cockpit displays, and aircraft software to allow the A-10 to support SADL, GPS Aided Munitions (precision strike), and the PATS pod. This program will also include CMS, GPS and Lightweight Airborne Recovery System for increased survivability, greater navigation accuracy and mission capability. This program, called Precision Engagement, begins in FY 2001 and will be structured similar to the current F-16 CUPID program. Funding for this program is a combination of NGREA and AF program dollars.

F-15 A/B Aircraft: The ANG has 100 percent of the CAF F-15 A/B fleet. These aircraft are tasked for the Air Superiority and Continental Air Defense mission. F-15 aircraft began being equipped with the Fighter Data Link (FDL) in FY 2000. This upgrade will give ANG F-15 aircraft state-of-the-art combat identification (CID) capability and common employment capability with the active fleet. FDL is being funded with a combination of NGREA and AF program dollars. All units are currently equipped with NVGs and will soon field an NVIS cockpit lighting modification. This modification is low cost and will be completed at the unit level. Several classified electronic combat enhancements are in the works for the F-15 as well.

B-1 Bomber Aircraft: There are currently no ANG initiatives to enhance the precision ordnance capability on the B-1. However, the Active AF is including ANG B-1 aircraft in all its planned upgrades including precision ordnance using GPS aided munitions. B-1 Multi-Carry Weapons Modules, allowing a 28 bomb weapons mix, are critically short AF-wide. A beyond-line-of-sight data link capability is also a top priority, but a particular system has not been identified. Both ANG B-1 units have been supplied with NVGs and night vision lighting is being considered for a future upgrade. Defensive system upgrades are programmed into the next three AF upgrades, and a cockpit Video Tape Recording (VTR) system is under concept development.

2. Air Refueling Aircraft

KC-135 Tanker: The ANG's air-refueling tanker force represents 41 percent of the total force's refueling aircraft. Tankers extend the range of airlift and combat aircraft by enabling these

planes to be refueled in flight. The ANG is working Pacer Compass, Radar and Global Positioning System (CRAG), and Global Air Traffic Management (GATM) upgrade programs for the KC-135 fleet.

KC-X Air Refueling Aircraft: The ANG began initial work with Air Mobility Command (AMC) to identify requirements for a replacement aircraft (dubbed the KC-X) for the current aging air-refueling fleet.

3. Airlift Aircraft

C-5 Aircraft: The ANG's C-5As comprise over 10 percent of the entire C-5 airlift fleet. The reliability of the A-Model continues to be a concern. Two major modification programs now in work or soon to be implemented will significantly improve the C-5's reliability, maintainability, and availability. These programs include the Reliability Enhancement and Re-engining Program (RERP) and the Avionics Modernization Program (AMP).

C-141 Aircraft: Air Mobility Command identified a core of 63 Air Reserve Component (ARC) C-141C aircraft that will remain in the inventory through FY 2006. They will remain an integral part of the strategic airlift forces until the C-17 is fully fielded. The core 63 aircraft, which include 18 ANG aircraft, are currently receiving four concurrent modifications required to keep them flying until the C-17 transition is complete. The modifications include the All Weather Flight Controls System, the GPS Enhanced Navigation System, the Fuel Quantity Indicating System, and the Defensive Systems package providing missile warning and countermeasures dispensing. Additional safety modifications, which are also to be incorporated in the C-141, include the Traffic Collision Avoidance System II and the Terrain Avoidance Warning System.

C-130X: AMC, in coordination with Air Combat Command (ACC), Air Force Reserve Command (AFRC), Air Force Special Operations Command, and the ANG, is pursuing an avionics modernization program to convert all C-130/E/H1/H2/H3 aircraft into one baseline avionics configuration. The goal is to have only two configurations of C-130 aircraft by FY 2015 (C-130X and C-130J). The program is broken down into Phase 0 (Prerequisite Modifications) - ongoing, Phase 1 (Avionics Modernization Program) – in source selection with contract award scheduled for March 2001, and Phase 2 (Structural Engines and Environmental Improvements) – FY 2005 for selected E-model aircraft.

C-130J Aircraft: Eight C-130 Js have been delivered to the 135th AW, MD ANG. There are currently ten C-130Js on contract for the ANG; three for the 143rd AW, RI ANG, two for the 146th AWG, Channel Islands, CA. and five for the 193rd SOW, AP ANG. The FY 2001 Appropriations Bill included funding for one additional aircraft for the 193rd SOW and two aircraft for Western States firefighting in the ANG, with anticipated bed down with the 146th AW, CA ANG.

4. Special Mission Aircraft

LC-130 Aircraft: Ski equipped aircraft support airlift operations to cold weather areas where other airlift aircraft cannot operate. The 109th AW, ANG NY, has four LC-130H2 and two LC-

130H3 aircraft. These aircraft were recently modified with ARC-210 Satellite Communications and Demand Assigned Multiple Access capability. This is the first airborne platform to acquire this new technology. Additionally, these aircraft have been modified with the APN-241 Low Power Color Radar and Electronic Flight Instrument System Suite. The National Science Foundation (NSF) owns one LC-130H aircraft. The NSF has procured three US Navy LC-130R aircraft, which are currently undergoing conversion to LC-130H2 configuration. The NSF owned aircraft are operated in support of the Antarctic mission by the 109th AW.

C-40C Aircraft Procurement: The C-22 fleet (flown and supported by the 201st Airlift Squadron, Andrews AFB, MD) will be phased out in FY 2001 – FY 2003, leaving a requirement for replacement aircraft. Congress provided $52 million in FY 2001 funding to purchase a C-40 to begin the replacement effort. The C-40 is the military designation for the 737 Boeing Business Jet. Three additional aircraft are needed to support the NGB requirement for a 40-70-passenger jet with long-range capability for worldwide transportation of AF, DOD senior officials, foreign dignitaries, and legislative and executive branch members.

C-26 Aircraft: Aircraft upgrades to the C-26 involving the WF-360 Forward Looking Infra-Red (FLIR) imaging system began in FY 1998 and completed in FY 2000. In addition to the FLIR, the upgrade includes a sensor controller operating system upgrade, touch-screen technology, emergency battery backup, Wulfsburg AM/FM/HF/VHF/UHF radios, and fire detection/suppression for the FLIR pod. In the near future the KS-87 "wet film" cameras (for the C-26) will be upgraded with improved electro-optical technology. Also, a new C-26B will be modified for the West Virginia Air Guard.

C-38 Aircraft Procurement: The C-38 Astra SPX jet was chosen to replace four C-21 aircraft. Two C-38 aircraft were delivered to the 201st Airlift Squadron in the third quarter of FY 1998. With only two aircraft available, the squadron is not at full mission capability, as a result, it is difficult to insure consistent airlift support. Two more C-38s are needed to bring the unit to full mission capability and ensure effective use of the aircraft.

OC-130 Aircraft: This observation/surveillance aircraft [SCATHE VIEW (ANG C-130H2) KEEN SAGE (USAFE C-130E)] began coming into inventory in FY 1999 and is scheduled for full operational capability in FY 2001. Eight ANG C-130H2 aircraft are currently undergoing modification to carry this sensor suite for use by theater CINCs in support of their objectives. This sensor suite consists of upgraded Westcam sensors similar to those in the Predator Unmanned Aerial Vehicle (UAV) aircraft. Trained image interpreters perform airborne sensor operations from a pallet workstation in the aircraft. Imagery and observations can then be datalinked to ground command centers.

EC-130E Aircraft: This Psychological Operations aircraft is scheduled for conversion to the new EC-130J model. This conversion transfers the EC-130E Special Mission Equipment to the new EC-130J Commando Solo mission. Currently, three basic airplanes have been delivered, one is on contract, and funds for a fifth were appropriated for FY 2001 to allow for an additional plane and mission equipment deck. The contract for transfer of the Special Mission Equipment was awarded in September 2000.

Modular Airborne Fire Fighting System (MAFFS): The ANG is an active participant with the United States Departments of Agriculture and Interior fighting fires that threaten our precious forest resources. MAFFS is a roll-on, roll-off platform that carries 3000 gallons of retardant used in fighting forest fires. The retardant is sprayed either on a fire to aid in putting it out or on unburned forest to slow the spread of the fire. The current system is 28 years old, is 50 to 70 percent less effective than current tankers, and is reaching the end of its operational life of 30 years. Congress has appropriated $9.5 million for replacement of this system and the Air Guard Acquisition office and the US Forest Service are procuring the new system this year.

5. Rescue Aircraft

HH-60 Helicopter: The 701C Engine Retrofit and Improved Flight Controls Program replaces existing engines and improves flight control systems. In the past, the HH-60's performance has been significantly degraded by the additional aircraft weight of rescue mission upgrades. The new engines have 20 percent more power providing a greater margin for safety on hot days and at high altitude. This program will be completed in FY 2001. The Self Protection System will provide a missile warning system and counter measures dispensing system for chaff and flares. Additionally, an ARC-210 radio will be installed to provide SATCOM.

HC/MC-130 Aircraft: A low cost NVIS Compatible Lighting System modification is in the contract phase for the CAF rescue fleet. A Personnel Locator System will be installed on Kulis, AK, and Moffet, CA, aircraft. This system will give rescuers bearing, range, and authentication information on downed aircrew members equipped with the PRC-112 survival radio. A FLIR program has been funded for the HC-130 fleet for FY 2001. A SATCOM program is planned for installation in FY 2002. The ANG received four MC-130P Combat Shadow aircraft in FY 2000 at the 129th RQW, Moffett FAF, CA.

6. Mobile Approach Control System

MPN-14k Mobile Approach Control System (MACS): MACS provides surveillance assistance in support of the air defense mission and aids in detection/identification of unknown targets. This information is then relayed to air defense command centers. MACS may also be used to support worldwide emergency and disaster relief situations requiring ATC services during peacetime. The MACS presently being used by the ANG was declared operational in the early 1950s. Although some upgrades have occurred to the MPN-14k through the years, there are currently no spare parts remaining to replace failing equipment. As such, the ANG is looking to begin an acquisition effort to replace the existing system. Funds were appropriated in FY 2001 for RDT&E testing of an ANG MATCS.

(b) Average Age of Major Items of Equipment: Overall, the average age of MIE within the ANG is 30 years. Some examples include:

Aircraft	Average Age	Aircraft	Average Age
F-16 A/B	19.5	C-5A	27.9
A/OA-10	18.3	KC-135E	41.2
F-15 A/B	21.9	C-141	33.4

Aircraft	Average Age	Aircraft	Average Age
B-1	11.1	C-22	14.1
HH-60	8.3	C-130E	37.1
P-4	23	MPN-14K	45+

(c) Compatibility of Current Equipment with Active Component: Compatibility problems exist within ANG and AC equipment in the following areas:

F-16A/B (Block 25/30): Internal components are no longer compatible with the AC's newer aircraft and require special logistical support. Many ANG F-16s also lack precision attack capability and electronic warfare compatibility with AC capabilities.

Senior Scout: The Senior Scout training platform has not been kept up-to-date with changes to active aircraft. Although additional funding was directed for the operations and maintenance, manpower, and procurement of the program, an additional $5.3million is required for the necessary modernization of the Senior Scout system.

Combat Intelligence System (CIS): First generation CISs delivered to ANG units were not Year 2000 compliant. By contrast, AC units were receiving third generation equipment that met the AEF operational concept and were Year 2000 compliant. They were replaced with personal computer based systems provided by the major commands, which are compatible with the force level Tactical Battle Management Communication System.

(d) Maintenance Issues: The F-16A/B series fighters are no longer considered combat deployable and system age is significantly affecting F-15A/B supportability and mission readiness. The KC-135 suffers from GATM non-compliance, and the KC-135E variant can no longer meet global environmental standards. Corrosion and structural problems severely affect the ANG's C-5 fleet. Air defense Regional and Sector Air Operations Center data processing capabilities are also becoming inadequate across the fleet.

Three Block 42 F-16 units maintain Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) precision targeting capability only by sharing one unit's complement of LANTIRN pods and support equipment. The lack of the requisite support equipment severely impacts the overall deployment ready status of LANTIRN assets.

The MPN-14k MACSs are well beyond their planned service life, have long passed their point of economical sustainment, and now experience excessive downtime and unacceptably low rates of operational availability. Although some upgrades have occurred to the 45+ year-old equipment, currently there are no spare parts available with which to replace failing equipment.

(e) Modernization Programs and Shortfalls: The ANG, as a part of the Total Air Force, is severely deficient in preparing to meet GATM requirements and Stage III noise reduction standards. Although a number of alternatives for various aircraft are under study, regardless of the measures under-taken, they lack funding which will place severe constraints on modification schedules.

The MPN 14k Replacement expects nominal procurement funding to initiate the program. Research and development funding required for engineering and system integration development prior to commencing a full-scale acquisition effort was provided for in FY 2001.

The F-15 A/B engines are a chronic readiness issue due to worn engine cores and erosion of availability of contractors who manufacture the parts. Due to a shortage of funds in the F-15 modernization program, the decision was made to prioritize the F-15 C/D fleet for the 220E engine upgrade. The F-15 A/B will soon enter the five-year window prior to retirement, which invokes the sunset restrictions on modernization programs. The ANG will inherit the engine upgrades when the combat-coded F-15 C/Ds flow to the ANG starting in FY 2003.

(f) Overall Equipment Readiness: ANG equipment, although much of it is of an older generation, is generally in a ready-to-go condition. However, because of capability shortfalls in the older equipment, some aircraft are not deemed suitable by the CINCs for deployment to their area of responsibility. Likewise, some air traffic control and approach control facilities, while still functioning, are generations behind the state of the art in their design. In addition, again due to the age of the equipment, the logistics tail for some equipment is now inadequate, awkward, overly expensive or non-existent.

(g) Other Equipment Specific Issues: Many new missions are migrating to the ANG (F-15 & F-16 pilot training, Engineering Installation activities, Communications Support missions, etc.) but some needed equipment is lacking (F-15 pilot simulator), and funding for new missions is severely limited to non-existent.

The ALQ-131 Block II and ALQ-184 electronic countermeasures pods are used on over 1300 F-16, A-10, and C-130 aircraft. Developed many years ago, both are now experiencing numerous reliability, maintainability and operational shortfalls. An affordable program to modernize and maintain these important self-protection systems is needed. Upgrades must stress common modules and approaches to lower the overall cost of ownership. Important requirements include adding Mil-Std-1553 communications, upgrading obsolete processors and other parts, replacing obsolete ground support stations with a common station, adding flexibility to add other capabilities such as towed decoys, and missile warning systems. Most importantly, a pod based system that meets the war fighter's requirements and which is easily moved between aircraft will provide the flexibility and reduced logistics footprint needed for future AEF deployments.

b) Changes Since Last NGRER: There are few changes since the last report. A few new programs have been added (for example KC-X and C-40C) but the equipping philosophy has not changed. There has been an increase in visibility in some areas as a result of the ANG's non-participation in Bosnia and Kosovo combat operations (due to not having precision attack capability) and this has energized high level talks to determine fixes for this problem.

c) Future Years Program (FY 2002 – FY 2004)

(1) FY 2004 Equipment Requirements: ANG Medical Squadrons have a significant shortfall of medical training equipment including complete care mannequins, dental mannequins, and durable medical equipment. The cost to eliminate this shortfall at the 104 units is estimated at $3 million.

(2) Anticipated New Equipment Procurements: Funding for procurement of major items of ANG combat and direct combat support equipment are programmed in the budgeting and planning process by the Active AF (to include needs of the ANG) as required to meet planned total force employment plans. The Congress, in their annual budget appropriation, also directs some additional ANG administrative, non-combat, and special mission equipment procurements. Anticipated additions include additional replacement aircraft for the C-22 aircraft about to be retired, and two additional C-38 aircraft to meet small load special mission requirements.

Other ANG procurements are expected to include additional F-15E engine upgrade kits and completion of the installation of the FDL into F-15s. Three new C-130J-30 aircraft are to be fielded for the 143rd Airlift Wing, Quonset Point, RI, two C-130J-30s for the 146th AWG, Channel Islands, CA, and five EC-130Js will be obtained for the 193rd Special Operations Wing, Harrisburg, PA. Litening II targeting pods are being procured for the ANG's F-16 Block 25/30 aircraft, and when upgraded with GPS, CMS, NVIS, and SADL under the CUPID program, these aircraft will be as capable as any other F-16 in the AF inventory.

KC-135E engine replacement upgrades will also continue as funding permits, following a Congressionally directed engine replacement program review. One hundred fourteen KC-135s remain to be upgraded.

(3) Anticipated Transfers from AC to RC: The F-15C is expected to begin transition from the AC to the ANG starting in FY 2003 and extending into FY 2004. The C-5A aircraft in AC units are also expected to be re-engined and transferred to the Guard and Reserve rather than retired.

(4) Anticipated Withdrawals from RC Inventory: Due to aircraft age and the cost to address GATM requirements for worldwide operations, the three C-22s assigned to the 201st AS, DC ANG, at Andrews AFB are being phased-out. The aircraft are scheduled to leave the inventory in Nov 01, Dec 02, and Dec 03. The replacement aircraft is the C-40C, a military derivative of the 737 Boeing Business Jet (BBJ). Funding for the first aircraft is available in FY 2001 and delivery tentatively scheduled for January 2003. Options for additional aircraft to complete the fleet will be exercised as additional funding is appropriated. AMC identified a core of 63 ARC C- 141C aircraft that will remain in the inventory through FY 2006. They will remain an integral part of the strategic airlift forces until the C-17 is fully fielded. The core 63 aircraft, include Guard, and Reserve aircraft, received four modifications required to maintain viability until the C-17 transition is complete. The modifications included the All Weather Flight Controls System (AWFCS), the GPS Enhanced Navigation System (GPSENS), the Fuel Quantity Indicating System (FQIS), and the Defensive Systems package, which provide missile warning

and countermeasures dispensing. Two additional safety modifications, the Traffic Alert & Collision Avoidance System (TCAS II) and the Terrain Avoidance Warning System (TAWS), are currently being installed.

(5) Equipment Shortages and Modernization Shortfalls at the end of FY 2004: The most significant challenge to ANG readiness is that of equipment. The ANG has the oldest aircraft in the AF inventory. Modernization of the fleet to meet the warfighting CINC taskings is critical to a robust and lethal Total Force.

The number one ANG priority is fielding precision strike capability in its fighters, followed by fielding a datalink/CID on its entire fleet. To increase its precision strike capability, the ANG is short 104 PATS pods.

A shortage of 10- and 28-carry weapons modules limits use of the ANG B-1 bombers in a mixed munitions role. Eighteen additional B-1 28-carry and four 10-carry modules are needed.

A Helmet Mounted Cueing System with High Off-Boresight Missile Integration capabilities is also needed to optimize air-to-air and air-to-ground weapons employment on all fighter platforms.

HC-130 combat search and rescue aircraft need a FLIR to provide the ability to see through smoke, light fog and rain, permitting crews to operate under the worst of conditions. Nine ANG aircraft require this capability.

The SADL provides an all-weather, low-cost data link using off-the-shelf Enhanced Position Location Reporting System radios and provides a major improvement in preventing fratricide during combat operations. SADL terminals are needed for 64 ANG A-10s. Carry-on SADL units are needed for ANG C-130s and KC-135s, where it is planned to wire all aircraft, and equip 50 percent, moving terminals between aircraft as needed. SADL Gateway terminals are also needed in elements of the Theater Air Control System (TACS) to allow all TACS participants to view the target, track, and deployed forces digitized battlefield information broadcast on the net.

The F-16 CUPID upgrade for Block 25/30 aircraft provides for SADL; however, it does not provide an upgraded color display capability. The addition of the Advanced Display Processor and Color Display configuration optimizes utilization, increases aircraft processing capability, pilot situational awareness, and combat survivability and lethality. Two hundred eighty-one (281) color displays are required.

The fielding of the FDL opens many new opportunities for improving the capabilities of the F-15. Effective training of pilots in the use of those expanded capabilities is essential to optimize the F-15's employment. An F-15 Advanced VTR is needed to fully capture all the expanded training mission data now derived from addition of the FDL. One hundred sixteen (116) ANG F-15s require this capability.

The B-1 currently lacks the capability to update target and threat information while enroute to its target. A Beyond Line-of-Sight capability is needed to process and display update information while enroute, thus increasing the lethality of its standoff weapons and survivability of the aircraft. The program is currently under development. A total of twenty sets are required for ANG aircraft.

Tactical Digital Information Link-J (TADIL-J)/NATO Link-16 has been identified as the primary tactical data link for future joint military operations. Most tactical command and control units and fighter aircraft will have some TADIL-J capability soon. However, the three Sector Air Operations Centers have no TADIL-J capability and require Joint Tactical Information Distribution System radios to begin integration into the TADIL-J network.

NVGs provide C-130 aircrews with situational awareness; turnpoint, landing and drop zone identification, formation positioning and deconfliction, and integration in nighttime battlespace. Eleven ANG C-130H2 and C-130J equipped units do not have NVGs and the required support equipment. Four hundred (400) sets are required.

To support the optimized capability of NVGs, a fully NVIS compatible cockpit is required. While most of the newer C-130 aircraft are NVIS compatible, the ANG's C-130E and C-130H2 aircraft are not. While the ANG's C-130E aircraft will eventually be replaced by newer C-130Js, NVIS compatible cockpit lighting is required for 104 ANG C-130H2 aircraft.

International airspace management reduced VHF radio channel spacing to create additional frequencies for voice communications between air traffic control and aircraft. This change affects all aircraft operating at altitudes above 24,500 feet. The ANG's three C-22s and 18 C-141s routinely operate in this high altitude environment and must have the 8.33 channel spacing VHF radios.

Typical aircraft countermeasures against infrared guided missiles are made from highly visible magnesium Teflon. Covert self-protection countermeasures are undetectable in the visual spectrum and do not highlight aircraft location to the enemy. The BOL IR covert flare capability modification for the ANG's F-15s will provide exceptional preemptive and reactive protection. One hundred eight (108) ANG F-15 aircraft require modification. The Pylon Integrated Dispenser System universal modification for the ANG's 342 F-16 Block 25/30 aircraft will increase their self-protection and smart weapons employment capabilities.

Current antenna locations and installations for the ALR-69 radar warning receivers (RWR) on A-10 and F-16 aircraft result in providing late warnings of modern air-to-air and surface-to-air threats. Modifications to correct this problem have been developed. One hundred ninety (190) ANG F-16s require the change, and 102 ANG A-10s must be updated.

The HC-130 Integrated Countermeasures System merges inputs from the Missile Warning System, Countermeasures Dispensing System, and RWRs to simplify operations, relieve reliance on a human interface, and defeat threats to the aircraft. The ANG requires 13 HC-130 aircraft to be upgraded.

ANG C-130 aircrews have no ballistic protection when exposed to small arms and anti-aircraft fire when operating in low to medium threat environments. A lightweight removable armor system was developed as a result of operational experience in Bosnia. Thirty-two C-130 armor systems are required for ANG aircraft.

The HH-60 is particularly vulnerable to shoulder fired missiles because of the low altitudes and relatively low airspeeds at which it routinely conducts its missions. A development program to provide a robust countermeasures capability is under development, but is 5 to 7 years from fielding, is grossly underfunded, and does not include ANG aircraft. The HH-60 Self Protection System (SPS) provides this capability now and uses equipment slated to be used in the developmental system. The ANG requires 18 HH-60s to be equipped with SPS.

The ANG Block 42 F-16 aircraft require new engines to increase their thrust in order to perform the multiple combat taskings now being assigned. The simultaneous carrying of both LANTIRN and HTS pods significantly degrades performance of the aircraft with the current engines. A total of 52 upgraded engines are required for the ANG's F-16 Block 42 fleet.

The ANG F-16 and F-15 fighter aircraft equipped with the Pratt & Whitney F100-PW-100 and –200 engines are flying with the oldest production design of the engine. The engine has become increasingly difficult and expensive to maintain due to high usage, age, and dated technology. Kits are available to convert these engines to the F100-PW-220E configuration, adding increased thrust, increased reliability, reduced maintenance, and better fuel efficiency. The ANG requires 297 upgrade kits.

C-130Js are being provided as replacements for aging C-130 aircraft currently in use by the ANG. Three new C-130J-30 aircraft are under contract and destined to go to the 143rd AW, Quonset Point, RI. However, this will result in a mixed unit of 3 C-130Js and 5 C-130Es. The five C-130Es require replacement with C-130Js to simplify maintenance training, logistics support, and manpower.

In a congressionally directed program, aging EC-130Es are being replaced with new C-130Js, with the current mission equipment being moved from the old aircraft to the new models. Five aircraft have been funded for delivery to the 193rd SOW, Harrisburg, PA. Three additional aircraft are needed to complete the unit's conversion and prevent leaving the unit with a mixed fleet of E and J model aircraft.

The C-22B fleet will begin its scheduled retirement in October 2001. One C-40 replacement aircraft purchase was appropriated in FY 2001. The C-22 (C-40) fleet provides support for Congressional, DOD, AF, and National Guard Team missions worldwide. A total of four replacement aircraft are required.

Two additional C-38A aircraft are required to complete the fleet of four aircraft at Andrews AFB, MD. These ANG aircraft support Congressional, Executive Branch, DOD, AF and National Guard travel missions worldwide. The additional aircraft are required to fulfill the numerous small load taskings received, and take advantage of scheduling, training, and aircraft reserve efficiencies that four aircraft provide over two.

To increase high threat survivability, towed decoys are required for the ANG fighter aircraft. The HH-60 helicopters require a SPS.

The MACS, presently being used by the ANG, attained its IOC in the 1950s, and although there have been some upgrades to the MPN-14k through the years, there are currently no spare parts remaining to replace failing equipment. Efforts to implement a replacement program have been slow and as yet not fully successful.

There are only 29 P-23 fire trucks assigned to the ANG against 50 authorizations. Additionally, of the 123 P-19 fire trucks currently assigned, 103 are replacement eligible due to age and wear and tear. Currently P-4 fire equipment is being retained against the shortages in P-23 and P-19 fire trucks. The average age of the P-4 is 24 years old.

The ANG is authorized 335 HMMWVs but have only 194 assigned.

While basically ready for General Purposes, lack of full CQ capability throughout the ANG fleet will limit full participation in CINC directed combat operations. In addition, lack of GATM compliance will significantly impact future operations worldwide.

(6) Other Comments: The ANG was introduced to unmanned aerial vehicles (UAV) operations beginning in FY 2000. The ANG staff is working in collaboration with ACC to bring the Nevada ANG into this mission. UAV operations break a lot of paradigms associated with traditional flying operations. UAV Teams, which are the operating elements, are not equipped with individual PAA, but rather are provided aerial vehicles with which they deploy. The Nevada ANG will build one or two operational teams at Indian Springs AAF, NV, and will partner in a Total Force effort.

d) Remaining Shortfalls and Unfunded Requirements

(1) Out-year FYDP Procurements (FY 2004-FY 2005): The ANG expects that C-130J aircraft procurements will continue to be directed at a low rate through FY 2008, replacing all ANG C-130Es.

(2) Other Requirements Not Addressed in the FYDP: *Table 8* highlights the ANG's major item unfunded requirements identified within the CQ. The list is compiled from mission priorities established through a formal process that identifies requirements at the unit level and translates that need into a total package. The ANG Acquisition Directorate (ANG/AQ) is responsible for coordination with the MAJCOMs, Air Staff, Joint Services, OSD, and the Congress to ensure all of the Guard requirements identified in the FYDP are addressed in the funding process. Modernization requirements not included in the President's Budget Submission (BES) are identified as unfunded priorities, however, in the absence of a formal BES at publication data, *Table 8* reflects the ANG's *best* estimation of the critical priorities that are not likely to receive funding.

e) Summary/Conclusions: The ANG currently bases its needs on requirements necessary to meet CINC guidelines for fighting forces. These CINC combat requirements are embodied in the CQ, which calls for a 24-hour operational capability, survivability in a high threat environment, a combat identification capability, and a precision attack capability. ANG's logistics and ground support elements are considered early-on in the acquisition process, and all its efforts are targeted at remaining well trained, prepared to react, and ready to respond.

During the transition to the EAF, all AF modernization and support efforts should include the entire Total Force. The objective is to field equivalent capabilities in each of the major weapons systems, streamlining the infrastructure and simplifying the deployment requirements to make the interchange of units more flexible. The AF budgeting and planning process must be structured to project an equipping and funding philosophy reflecting this Future Total Force approach.

ANG

Table 1

Consolidated Major Item Inventory and Requirements

NOTE: This table provides a comprehensive list of selected major items of equipment. It provides the quantity on-hand (QTY O/H) projected to be in the inventory at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) needed to meet full wartime requirements of the Reserve component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment which should be in the inventory of each Reserve component.

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
FIGHTER,A-10A	A-010A	10,900,000	72	72	72	72	**72**
BOMBER,B-1B	B-001B	314,820,000	16	16	16	16	**16**
AIRLIFT,C-5A	C-005A	169,960,000	12	12	12	12	**12**
OPS SPT,C-21A	C-021A	3,690,000	2	2	2	2	**2**
OPS SPT,C-22B	C-022B	18,560,000	2	2	1	0	**0**
AIRLIFT,C-130E	C-130E	13,240,00	61	61	59	45	**45**
AIRLIFT,C-130H	C-130H	33,500,000	136	136	136	136	**136**
AIRLIFT,C-130J	C-130J	53,900,000	8	11	11	13	**13**
AIRLIFT,C-141C	C-141C	47,180,000	16	16	0	0	**0**
OPS SPT,C-26B	C-26B	4,670,000	12	12	12	12	**12**
OPS SPT,C-38A **	C-38A	18,000,000	2	2	2	2	**4**
OPS SPT,C-40C *	C-40C	52,000,000	0	0	1	2	**4**
EL WARFARE,EC-130E	EC-130E	30,040,000	4	3	2	1	**0**
EL WARFARE,EC-130J	EC-130J	86,500,000	1	3	3	5	**8**
FIGHTER,F-15A	F-015A	31,040,000	79	79	76	76	**76**
FIGHTER,F-15B	F-015B	31,040,000	15	15	15	15	**15**
FIGHTER,F-15C	F-015C	33,240,000	9	9	12	12	**12**
FIGHTER,F-15D	F-015D	33,240,000	2	2	2	2	**2**
FIGHTER,F-16A	F-016A	16,150,000	56	56	37	37	**37**
FIGHTER,F-16B	F-016B	16,150,000	8	8	7	7	**7**
FIGHTER,F-16C	F-016C	20,910,000	372	372	387	387	**387**
FIGHTER,F-16D	F-016D	20,910,000	37	37	37	37	**37**
RESCUE,HC-130N	HC-130N	20,500,000	5	5	5	5	**5**
RESCUE,HC-130P	HC-130P	13,360,000	6	6	6	6	**6**
RESCUE,HH-60G	HH-060G	17,600,000	15	15	15	15	**15**
AIR REFUELING,KC-135E	KC-135E	44,000,000	110	110	110	110	**110**
AIR REFUELING,KC-135R	KC-135R	57,690,000	94	94	94	94	**94**
AIRLIFT,LC-130H	LC-130H	59,300,000	10	10	10	10	**10**
RESCUE,MC-130P	MC-130P	33,400,00	4	4	4	4	**4**
AIR SPT,OA-10A	OA-010A	10,900,000	18	18	18	18	**18**
* C-40C is a planned replacement for the C-22B which is being phased out of the inventory.							
** The requirement for two additional C-38A aircraft is immediate but funding is unavailable.							

ANG
Average Age of Equipment

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for fiscal year (FY) 2002.

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE (Yrs)*	*REMARKS*
FIGHTER, A-10A	A-010A	21.1	
BOMBER, B-1B	B-001B	14.5	
AIRLIFT, C-5A	C-005A	30.7	
OPS SPT, C-21A	C-021A	14.3	
OPS SPT, C-22B	C-022B	17.0	
AIRLIFT, C-130E	C-130E	38.0	
AIRLIFT, C-130H	C-130H	10.0	
AIRLIFT, C-130J	C-130J	1.0	
AIRLIFT, C-141C	C-141C	35.5	
OPS SPT, C-26B	C-26B	7.8	
OPS SPT, C-38A	C-38A	3.7	
EL WARFARE, EC-130E	EC-130E	36.0	
FIGHTER, F-15AB	F-015A/B	23.6	
FIGHTER, F-15C/D	F-015C/D		
FIGHTER, F-16A/B	F-016A/B	21.0	
FIGHTER F-16C/D	F-016C/D	14.9	
RESCUE, HC-130N	HC-130N	15.0	
RESCUE, HC-130P	HC-130P	15.0	
RESCUE, MC-130P	MC-130P	15.0	
RESCUE, HH-60G	HH-60G	11.1	
AIR REFUELING, KC-135E/R	KC-135E/I	41.6	
AIRLIFT, LC-130H	LC-130H	14.0	
AIR SPT, OA-10A	OA-10A	21.1	

ANG
Service Planned Procurements (P-1R Data)

NOTE: This table identifies the dollar-value of equipment programmed to be procured with Service procurment funds as identified in the P-1R exhibit of the President's budget. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; eg. items procured in FY 03 would be expected to arrive in RC inventories in FY 04 or FY 05.

NOMENCLATURE	*FY 2002*	*FY 2003*	*FY 2004*	*REMARKS*
B-1B	12,800,000	13,800,000	18,400,000	
A-10	3,200,000	6,200,000	6,700,000	
F-15	300,000	11,000,000	11,500,000	
F-16	89,500,000	54,500,000	61,200,000	
C-5	9,900,000	24,700,000	32,400,000	
C-21	2,100,000	2,000,000	1,500,000	
C-130	24,200,000	37,400,000	64,100,000	
C-135	71,400,000	104,800,000	107,300,000	
DARP	12,200,000	3,100,000	3,200,000	
H-60	4,500,000	6,900,000	1,900,000	
Other Aricraft	4,600,000			
Aircraft Support Equipment & Facilities	39,600,000	40,200,000	45,000,000	
Buses	600,000	4,800,000	2,600,000	
Truck Multi-Stop 1 Ton 4X2	900,000	900,000	1,100,000	
High Mobility Vehicle (MYP)	1,000,000			
Items Less Than $5,000,000	8,500,000	13,000,000	13,800,000	
Tractor, Tow, Flightline	800,000	3,400,000	1,700,000	
Items Less Than $5,000,000	1,500,000	15,200,000	12,200,000	
Items Less Than $5,000,000	500,000			
Truck, F/L 10,000lb	1,600,000			
Items Less Than $5,000,000	1,100,000			
Truck, Dump	700,000	2,100,000	2,000,000	
Runway Snow Removal and Cleaning Equipment	3,400,000		900,000	
Items Less Than $5,000,000	4,300,000			
Intelligence COMM Equipment	1,000,000	1,000,000		
Air Traffic CTRL/Land System (ATCALS)		31,200,000	38,500,000	
National Airspace System	8,500,000	3,800,000		
Theater Air Control Sys Improvement	1,900,000		1,600,000	
Weather Observe/Forecast	1,600,000		400,000	
AF Global Command & Control Sys	500,000	1,400,000	1,800,000	
Combat Training Ranges	3,400,000	700,000	1,700,000	
Base Level Data Auto Program	1,200,000	1,100,000		
Theater Battle Mgt C2 Sys	1,500,000			
Defense Message System (DMS)	1,100,000	1,100,000	1,100,000	
NAVSTAR GPS Space	500,000			
Tactical C-E Equipment	20,000,000	20,000,000	20,000,000	
Base Comm Infrastructure	24,300,000	24,700,000	25,300,000	
Items Less Than $5,000,000	1,500,000	1,500,000	1,500,000	
Comm Elect Mods		100,000	100,000	
Base/ALC Calibration Package	500,000	700,000	1,100,000	
Items Less Than $5,000,000	1,600,000	1,900,000	1,900,000	
Night Vision Goggles	700,000	500,000	700,000	
Items Less Than $5,000,000	900,000	1,000,000	900,000	
Mechanized Material Handling Equip	1,000,000	1,100,000	1,000,000	
Items Less Than $5,000,000	1,100,000	1,500,000	1,500,000	
Floodlights	800,000	800,000	200,000	
Items Less Than $5,000,000	700,000	700,000	1,200,000	
Photographic Equipment	500,000	300,000	300,000	
Air Conditioners	800,000	400,000	400,000	
Items Less Than $5,000,000	3,100,000	3,300,000	3,200,000	
TOTAL	**$377,900,000**	**$442,800,000**	**$491,900,000**	
# The above figures do not include ammunition				

ANG
National Guard and Reserve Equipment Appropriation (NGREA) Procurements

NOTE: This table identifies the dollar-value of equipment programmed to be procured with National Guard and Reserve Equipment Appropriations (NGREA). These funds are available for a three year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from date of procurement before they arrive in the inventory .

NOMENCLATURE	*FY 1999*	*FY 2000*	*FY 2001*
C-130J	192,000,000		
Night Vision Imaging Sys (NVIS) F-15/F-16	3,000,000	600,000	
SADL A-10	6,500,000	3,050,000	
SADL-HC-130, HH-60		1,350,000	
Gateway/Support SADL		2,500,000	
Ground Tactical Air Control SADL		1,000,000	
Color Display F-16 Block 25/30		5,000,000	3,970,000
A-10 CMS		3,940,000	
A-10 PLS/LARS		1,140,000	
A-10 Tail Armor		860,000	
A-10 ADI Integration		400,000	
ALR-69 Antenna Optimization F-16 & A-10		2,500,000	3,680,000
APN-241 Color Radar HC-130		4,500,000	
Fighter Data Link (FDL) F-15A/B	5,000,000		
Precision Attack Targeting System (PATS) F-16	5,500,000		
A-10 Integrated Flight and Fire Control Computer		3,000,000	
F-16 Advanced Targeting Pod (ATP)			3,564,000
HC-130 Forward Looking Infrared (FLIR)			3,800,000
SADL KC-135, C-130			2,100,000
F-15 Advanced Video Recording System (AVRS)			2,480,000
A-10 In-Flight Fire Control Computer			2,484,000
F-15 BOL IR Countermeasure Dispenser (CMDS)			3,003,000
C-130 Armor			1,752,000
Pylon Integrated Dispenser System Upgrades			2,957,000
Total Air National Guard	**$212,000,000**	**$29,840,000**	**$29,790,000**
Data provided by: ANG/AQX			

ANG
Projected Equipment Transfer/Withdrawal Quantities

TABLE NOT APPLICABLE

ANG
FY 1998 Planned vs Actual Procurements and Transfers

NOTE: This table compares what the Services planned to procure and transfer to the Aair National Guard in FY 1998 with actual procurements and transfers. Since the procurement cycle is normally one to two years from funding to delivery, this table identifies what has been delivered through the end of FY 2000.

Nomenclature	*Equip No.*	*Transfers*		*Procurements*		*NGREA*	
		Planned	*Actual*	*Planned*	*Actual*	*Planned*	*Actual*
TRK PU 4X2 STD	230005401428	0	0	175	149	0	0
TRK PU 4DR 4X4 7000G	2320005802955	0	0	60	60	0	0
TRK CRL 4X4 9 PAX	2320008797662	0	0	4	4	0	0
TRK CRL 4X4 SUBURB 7	2320009504238	0	0	9	9	0	0
TRK PU CMPT 4X2	2320010096194	0	0	77	77	0	0
TRK CRL 15 PAX 4X2	2320010366569	0	0	4	4	0	0
TRK UT 4X4 M1009 CUC	2320011232665	0	0	21	21	0	0
TRK HYDRANT FUELING	2320011252481	0	0	2	0	0	0
TRK CRL CMPT 4X2 7P	2320011736113	0	0	58	58	0	0
DELIVERY VAN W/CUT	2320011762223	0	0	42	38	0	0
TRK TEL MAINT UT	2320013437375	0	0	7	7	0	0
TRK CGO 5 TON M1083	2320013543386	0	0	18	0	0	0
6K F/L NARROW AISLE	3930014214083	0	0	1	1	0	0
Data Provided By: ANG/LGTV							

ANG
Major Item of Equipment Substitution List

TABLE NOT APPLICABLE

ANG
Significant Major Item Shortages

NOTE: This table provides an Air National Guard top ten prioritized (PR) unfunded list for major items of equipment required for wartime missions but which are currently not funded in the FYDP. It lists the total quantity required, the total unfunded requirement (UFR), and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.

PR	NOMENCLATURE	TOTAL REQ'D	UFR UNIT	UFR COST	RATIONALE / JUSTIFICATION
	PRECISION STRIKE				
1	Advanced Targeting Pod, F-16	81	1,500,000	121,500,000	Precision strike capability.
2	KC-135 Re-engine	88	22,000,000	1,936,000,000	KC-135E to R conversion.
3	F-16 Color Avionics				Increased data processing capability and improved pilot situational awareness.
	F-16 C Models	338	120,000	40,560,000	
	F-16 D Models	27	170,000	4,590,000	
4	F-16 Advanced Central Interface	365	37,500	13,687,500	Supports advanced weapons.
5	F-16 HUD/AEU	365	56,000	20,440,000	Supports advanced HUD upgrade.
6	C-130H2 APN-241 Radar	101	539,605	54,500,105	All weather precision airdrop.
7	Situational Awareness Data Link				Low cost tactical data link.
	C-130 Carry On SADL (Group B)	110	45,000	4,950,000	Group A: +$1,120,000
	KC-135 Carry On SADL (Group B)	112	45,000	5,040,000	Group A: +$1,120,000
	HH-60 Carry On SADL	18	50,000	900,000	Includes Group A.
8	C-130H2 Night Vision Imaging Sys.	104	130,000	13,520,000	NVIS compatible cockpit lighting.
9	ALR-69 Antenna Optimization				Increased threat detection and survivability capability.
	F-16	180	46,111	8,299,980	
	A-10	102	32,352	3,299,904	
10	F-16 Block 42 Re-engine	49	4,200,000	205,800,000	Increased thrust and maintainability.
	Data provided by: ANG/AQX				

III. Air Force Reserve Command (AFRC)

a) Current Status of the AFRC

(1) General Overview

(a) Mission: The AFRC supports the Air Force (AF) mission to defend the United States through control and exploitation of air and space by providing global reach and global power. The AFRC plays an integral role in the day-to-day AF mission and is not a force held in reserve for possible war or contingency operations.

(b) Resources: AFRC has 37 flying wings equipped with their own aircraft and seven associate units that share aircraft with an active-duty unit. Two space operations squadrons share satellite control missions with the Active force. Additionally, there are more than 620 mission support units in the AFRC, equipped and trained to provide a wide range of services, including medical and aeromedical evacuation, aerial support, civil engineering, security police, intelligence, communications, mobility support, logistics and transportation operations. AFRC has over 440 assigned aircraft comprised of the F-16, O/A-10, C-5A, C-141, C/MC/WC/HC-130, KC-135, B-52H and HH-60G. These aircraft, their crews and support personnel stand ready for assignment to the Air Combat Command (ACC), Air Mobility Command or AF Special Operations Command upon mobilization.

(2) Status of Equipment

(a) Equipment On-hand

1. Fighter Operations

F-16

F-16 Fighting Falcon: The F-16 is a highly maneuverable fighter designed to provide multi-role capability for today's complex battlefield environment. This aircraft is primarily used for missions in offensive counter air (air-to-air and air-to-ground), air-interdiction, suppression-of-enemy-air-defense, close-air-support, and air strike control. AFRC has 70 F-16C/D aircraft consisting of block 25, 30, and 32 airframes assigned to Naval Air Station, Joint Reserve Base, Ft Worth, Texas, Hill AFB, Utah, Homestead Air Reserve Station, Florida, and Luke AFB, Arizona. These aircraft represent less than 10 percent of the overall AF F-16 inventory.

A/OA-10 Thunderbolt II: The A-10 aircraft is primarily used in the ground attack roles of close-air-support and air strike control. The OA-10 is the observation version of the A-10. There are 52 O/A-10 aircraft assigned to the Air Force Reserve (AFR) inventory. They are located at Whiteman AFB, Missouri, Barksdale AFB, Louisiana, and New Orleans NAS JRB, Louisiana. ACC is upgrading the A-10 with much-needed new Attitude Directional Indicators (ADI) to address safety of flight concerns. The most promising development is the revamped precision engagement program that will incorporate Situational Awareness Data Link (SADL), targeting pods, and smart weapons capability.

A-10

2. Bomber Operations

B-52H Stratofortress: The B-52H aircraft wartime mission is to perform strategic attack, air-interdiction, offensive-counter-air, air-to-surface, suppression of enemy air defenses, mine-laying, and joint maritime operations. Nine B-52H aircraft are assigned to AFRC at Barksdale AFB, Louisiana. This Reserve unit is tasked to employ unguided gravity conventional munitions, Conventional Air Launched Cruise Missile, the precision GPS-guided Joint Direct Attack Munitions (JDAM) and the Wind Corrected Munitions Dispenser (WCMD). Enhancements to the AFRC B-52 fleet currently under consideration are: (1) Visual clearance of the target area in support of other conventional munitions employment; (2) Self-designation of targets, eliminating the current need for support aircraft to accomplish this role; (3) Target coordinate updates to JDAM and WCMD, improving accuracy; and (4) Bomb Damage Assessment of targets.

B-52

3. Airlift Operations/Special Missions: The AFRC airlift mission involves training for transporting people, equipment and supplies to meet US Armed Forces requirements anywhere in the world. This mission and other roles, including air refueling, and airborne warning and control system missions, make the Reserve a key element in the AF's Global Reach- Global Power concept.

C-141

C-141 Starlifter: The C-141 aircraft is utilized for long-range airlift. AFRC has 45 C-141C "glass cockpit" aircraft assigned to Wright-Patterson AFB, Andrews AFB, and March ARB. The AF's current plan is to retire the fleet by FY 2006.

AFRC C-5 from Westover ARB, MA, Supporting Hurricane Floyd Evacuation at Patrick AFB, FL.

C-5 Galaxy: The C-5A is a long range, heavy lift aircraft. AFRC has 32 aircraft assigned to Westover ARB, and Kelly AFB.

C-130 Hercules: The C-130 aircraft is utilized to support the tactical airlift mission. Its speed, range, load-carrying characteristics and capability to operate under difficult terrain conditions make it an invaluable and versatile aircraft. It is strong enough to deliver its cargo on unimproved landing strips. Other missions involve aeromedical evacuation and special air support operations. Additionally, two civil missions are supported by reserve C-130H aircraft: fire fighting and aerial spraying. The AFRC has 107 C-130 aircraft, including the E, H, and J models assigned to 11 different Reserve units.

C-130

There are other versions of the C-130 aircraft that are assigned to AFRC. They are WC-130H/J, HC-130N/P, and the MC-13-E. Currently there are 10 WC-130H aircraft (Hurricane Hunters) operating from Keesler AFB, MS. These aircraft are specially modified to penetrate severe storms to collect meteorological data. The "J" model will replace these "H" models by the end of FY 2002.

The MC-130E Combat Talon I is equipped for night and adverse weather, low-level, and deep-penetration tactical missions. Additionally, these aircraft have been modified to conduct air-to-air refueling in support of special operations helicopters. AFRC has 14 MC-130E aircraft assigned to Eglin AFB, Florida. The HC-130N/P Combat Shadow is configured to support the combat search and rescue mission. AFRC has 9 HC-130N/P aircraft located at Patrick AFB, FL, and Portland IAP, Oregon.

Long-term modernization includes the AMP to the "E" and "H" models. Efforts are under way to convert the entire C-130 fleet to a standard configuration called the C-130 "X". Major X-model changes would include a glass cockpit (avionics modernization), and Dash 15 engines and Auxiliary Power Unit.

HH-60G Helicopters: AFRC is assigned 23 HH-60G Helicopters located at Davis Monthan AFB, Patrick AFB, and Portland IAP to support the combat search and rescue (CSAR) taskings of ACC.

HH-60G

4. Aerial Refueling Operations

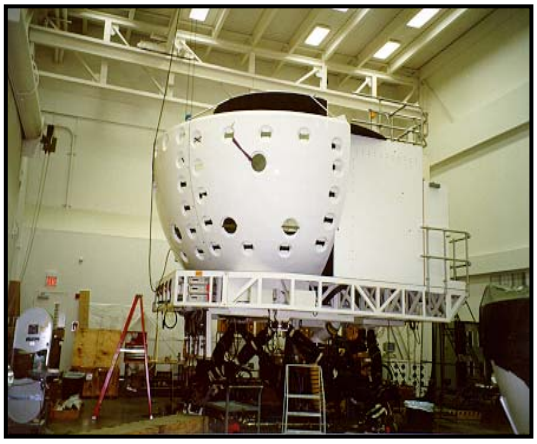
KC-135

KC-135 Stratotanker: The Stratotanker is the military equivalent of the Boeing 707 transport. The KC-135E and KC-135R aircraft can carry 120,000 pounds of transfer fuel. While the KC-135 is primarily tasked with aerial refueling, it is also utilized to airlift cargo and personnel. The KC-135E has an approximate range of 2,562 miles and the KC-135R has an approximate range of 2,800 miles. AFRC has 69 KC-135E/R aircraft assigned to Selfridge ANGB, MI, Beale AFB, California, Grissom ARB, IN, Seymour-Johnson AFB, NC, March ARB, California and Tinker AFB, OK. Reserve squadrons equipped with KC-135 participate in about 13 percent of the AF's KC-135 aerial refueling mission.

5. Trainers

C-130H3 Weapon Systems Trainer (WST)

The WSTs simulate all cockpit instruments, including ground-mapping radar and Air Defensive Systems, and are capable of Night Vision Goggle (NVG) training. The WSTs support tactical, low level, airdrop training for C-130 pilots, copilots, flight engineers, and navigators. Each WST is also accompanied by a stand-alone navigation trainer to provide C-130 navigators with quality training in over water flight procedures and Airborne Radar Approaches.

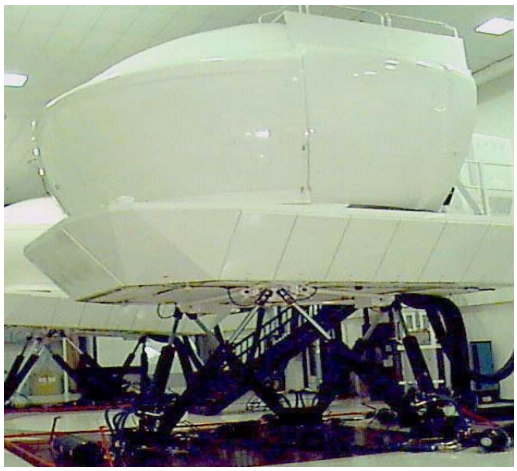


C-130H3 WST

The C-130 J Maintenance and Aircrew Training System program is supported by an AFRC initiative to build the first WST. This C-130 J WST is equipped with state-of-the-art hydraulic motion bases and a large, wrap-around out-the-window visual system. The WSTs simulate all cockpit instruments, including ground-mapping radar, Air Defensive Systems, and are capable of NVG

training. The WSTs support tactical, low-level, airdrop training for C-130 pilots, copilots, flight engineers and loadmasters. Currently, this WST is in the preliminary design phases with a scheduled on-site acceptance date to Keesler AFB, MS, in FY 2002/04. This AFRC WST will be the first J-model aircrew training asset available to train the J configuration for the active duty as well as ARC.

C-5 Weapon Systems Trainer



C-5 Simulator

The AFRC has a C-5A simulator at Westover ARB, MA. This simulator has a unique visual capability to train both air refueling and conventional air-land mission procedures. Another AFRC air mobility training initiative is the C-5 WST being built for the 433rd AW at Kelly AFB, TX. Through the use of the National Guard and Reserve Equipment Appropriation (NGREA), AFRC will receive a C-5 WST as the primary trainer to meet the Reserve strategic airlift role in FY 2001/03. This WST with state-of-the-art, hydraulic-motion base and a large, wrap-around out-the-window visual system will be certified by the Federal Aviation Administration and will support training of the Pilot, Copilot and Flight Engineer positions for initial qualification, mission qualification, upgrade, and continuation training. Maintenance Engine Run training capability provided by this WST will support maintenance personnel training.

C-141 Total Training System

C-141 TTS

With the draw down of the C-141 fleet, AFRC has provided guidance to stand up a Formal Training Unit (FTU) in October 2001, at Wright-Patterson AFB, Ohio. With the C-141 aircraft transition to AFRC due to Air Mobility Command retiring the fleet, the FTU will provide initial qualification training for all C-141 crewmembers. Wright Patterson will train aircrews on the C-model aircraft configurations and McGuire AFB, NJ, will complete the final B-model training for aircrews flying the older B-model aircraft. Due to the age of this airframe and its operation tempo, it is essential that these training assets be upgraded and maintained to support training mission ready/capable crews.

A-10 Full Mission Trainer (FMT)

AFRC recently fielded its first A-10 Full Mission Trainer (FMT) at Whiteman AFB, MO. The A-10 FMT provides the highest fidelity simulator training that the A-10 flight community has ever had available. These trainers are critical in supporting mission training capabilities, normal, emergency, instrument, weapons, or tactics procedures. The laboratory is scheduled to upgrade the FMT to a full tactical capability (including Maverick missile flyout and Countermeasures Suite) in mid/late FY 2001. A second AFRC A-10 FMT will be fielded at New Orleans NAS, LA, in FY 2001. AFRC also owns two older versions of the A-10 FMT located at Barksdale AFB, LA, with plans to upgrade them to more modern facilities over the next several years. The A-10 FMTs were built to operate in a networked/DMT-like training environment.

F-16 Mission Tactical Trainer (MTT)

AFRC has four F-16 MTTs located at various Reserve installations within CONUS. These devices provide important systems training to F-16 Block 25/30/32 qualified AFRC, ANG, and ACC pilots. These trainers are critical in supporting mission training capabilities, and normal, emergency, instrument, weapons, or tactics procedures. AFRC also plans to upgrade these devices to full tactical mission capability over the next several years. The F-16 MTTs were built to operate in a networked/DMT-like training environment.

F-16 MTT

(b) Average Age of Current Equipment: Please see *Table 2*.

(c) Compatibility of Current Equipment: AFRC equipment is compatible to support the AF missions. With the help of congressional funding AFRC has been able to continue initiatives in procuring which continue to keep the AF Reserve equipment mission compatible. Some of the completed upgrades include Targeting Pods for the F-16 Block 30 aircraft, SADL, and Electronic Warfare Management Systems for F-16s and A-10s, along with the HH-60 Self Protection System. The next essential modification effort for AFRC A-10/F-16s is a low cost solution for Advanced Color Display.

(d) Maintenance Programs: The AF logistics and maintenance programs are fully established to provide seamless support to all equipment and weapon systems in the AF inventory. There is no separate maintenance program for the ARC nor is there a separate logistics effort controlled by AFRC. The redistribution of active duty aircraft and equipment to the ARC necessitated a strong working relationship between AF lead commands and other supporting commands to ensure assets are properly maintained and operational. This trend will be maintained through FY 2002 and into the foreseeable future.

(e) Modernization Shortfalls: Congress initiated funding through the NGREA starting in December 1981 to address Reserve Component Readiness Issues. Public laws and legislative language directed that this equipment appropriation be intended to enhance the readiness, combat capability, and modernization issues of Reserve forces. NGREA has helped AFRC procure new weapon and support systems and special operations equipment. It has been the primary funding source AFRC uses to address its modernization shortfalls. The following are shortfalls categorized by major weapon systems.

C-130. Necessary upgrades include the continued modernization of HC-130s with Night Vision Compatible Aircraft Lighting Systems and equipping nine HC-130s with the APN-241 navigation ground map radar to improve aircrew survivability and weapon system reliability. Future efforts include forward-looking infrared (FLIR) systems for the HC-130 fleet.

KC-135. The KC-135E fleet is experiencing reliability and sustainability problems and is desperately in need of a configuration upgrade. For example, the current engine system (engines/start carts, etc.) does not meet noise and environmental requirements of the Clean Air Act. In response to these requirements, the AF fielded an engine retrofit kit in FY 1996 at a cost of $26 million per aircraft. However, lack of funding and support from the lead command has precluded the purchase of adequate numbers of replacement engines. There are 16 AFRC KC-135E aircraft requiring upgrades to the KC-135R configuration. AFRC considers KC-135E to R modernization as one of its top priorities.

F-16. One of the main limitations of AFRC F-16 aircraft is the need for new display processors to fully maximize the pilot's situational awareness. The current display processor fails without any prior indication of operating in a degraded mode. AFRC is actively looking at upgrading the processor with Commercial-Off-the-Shelf technology. Another limitation is the need for an accurate radar-warning receiver (ALR-69) for high threat survivability. The current receiver does not provide accurate warning to the pilot of impending danger from the either existing or projected threats.

8.33 Khz Radios

A-10. One of the A-10 challenges is resources for upgrade in the area of high threat survivability. Previous efforts focused on an accurate missile warning system and effective, modern flares, however a new preemptive covert flare system may satisfy the requirement. The A-10 can leverage the work done on the F-16 Radar Warning Receiver and C-130 towed decoy development programs to achieve a cost-effective capability.

The A/OA-10 has a serious thrust deficiency in its operational environment. As taskings evolved, commanders have had to reduce fuel loads, limit take-off times to early morning hours and refuse taskings that increase gross weights to unsupportable limits. Forty-five AFRC A/OA-10s need upgraded structures and engines (2 engines per aircraft plus 5 spares for a total of 95 engines).

B-52H. A major modification requirement is to provide a data-link or situational awareness system to support the extended B-52 mission timeline. The battlefield can be expected to change significantly during a lengthy (8-10 hours or more) B-52 mission. A system is needed to provide the crew with a moving map display that includes enemy surface and air threats in addition to friendly aircraft locations. The display system would also be used to provide the aircrew with target-set updates during flight. Another needed modification is the Laser Guided Bomb pod for Battle Damage Assessment. It could instantly provide war planners with campaign mission results.

C-141. Unless a waiver is pursued to the "sundown" statue, there is no modernization Efforts planned for the C-141.

HH-60G and HC-130 - Combat Search and Rescue (CSAR). CSAR is a requirement for most military contingency operations. For example, support from the 939th RQW's Pave Hawk helicopters and HC-130 Hercules aircraft is in constant demand. The wing's crews are trained in day or night operations, low-level and over water missions, and require night vision devices to enhance their rescue operations. In addition to its combat mission, the 939th RQW routinely supports civilian search and rescue requirements at Keflavik, Iceland, and in the coastal waters of the U.S. beyond the USCG range. It also provides support to Aerospace Expeditionary Force (AEF) requirements; NASA Space Shuttle mission rescue support; Eastern Range launch support at Cape Canaveral, Florida; and assists drug enforcement agencies in counter-drug operations.

The Active Duty lead command responsible for modernization of the SAR Total Force capabilities have not been able to fully meet their obligations due to higher priorities and fiscal constraints. AFRC was able to use NGREA funds to modernize some of the combat rescue assets and maintain the capability to support the AF in numerous contingency operations as well as AEF rotations. Future support of CSAR missions will be difficult without adequate funding.

(f) Equipment Readiness: The NGREA provides the AFRC with crucial flexibility to obtain priority improvements for aircraft and equipment items. The NGREA is used primarily to fund the AFRC modernization program and has been in decline in recent years. Our challenge for the future is to work closer with the lead commands, ANG, and OSD, to ensure a robust modernization plan for the AFR.

In FY 2000, Congress approved an amount of $20 million for the AF Reserve in the NGREA. The following are planned FY 2000 projects:

HC-130P/N NVIS Capable Aircraft Lighting System. The HC-130P/N upgrades aircraft cockpits to the C-130 H3 NVIS compatible lighting standard. Includes modification of current internal and external lighting systems to allow unrestricted use of NVGs.

F-16 Color Displays. Upgrades to a hi-definition color multi-functional display will enable the F-16 to capture more precise, informative pictures to improve target interpretation, advancing situational awareness, and increased electro-optical weapons and targeting system visual accuracy. This program is under evaluation due to funding constraints.

Multi-Function Display

Scope Shield II Radios. Replacement of Scope Shield I (SSI) tactical field radio sets with Scope Shield II (SSII) radios. The SSII radios have a proven capability of providing secured communication links required for all AFRC Force Protection units and will replace obsolete and unmaintainable equipment.

ALQ-131 Pod for F-16. Modification of the ALQ-131 jamming pods (used on F-16 aircraft) to comply with MIL-STD-1553 data bus radio frequency interface requirements. In particular, MIL-STD-1553 requires ALQ-131 receiver/processor data to be fed to the cockpit to enhance the pilot's situational awareness and coordinate pod operations with other aircraft equipment.

C-130H3 Training System Engineering Upgrades. Upgrades to the C-130H3 simulator at AFRC's Eastern Regional Training Center to meet airframe currency requirements prior to fielding

A-10 Attitude Directional Indicators. The current A-10 ADI has the lowest Mean Time Between Failure of all ADIs (500 hours). This creates a severe reliability & maintainability problem for AFRC. This program will provide a replacement solution for the A-10's main ADI.

HH-60G FLIR Upgrade Program. Upgrades consist of software and interface circuit board installation on the mission essential FLIR imaging system.

A/OA-10 Weather Avoidance System. This will provide the A/OA-10 aircraft with an advanced weather avoidance capability. This effort includes integration of electronic storm scopes, antenna, master power unit, and cockpit controls. Testing has been declared successful; however, funding constraints may cause program delays.

HC-130 Radar Replacement. This effort will replace the APN-59 radar on the HC-130 aircraft with the APN-241 radar. The current APN-59 radar system does not meet mission reliability, maintainability, and supportability requirements. In addition, maintaining the antiquated APN-59 system is becoming cost prohibitive.

During FY 2000, AFRC began taking delivery of the following miscellaneous equipment purchased with FY 1998 and FY 1999 NGREA funds:

F-16 Targeting Pod
F-16 Support Equipment
A-10 UTD Engineering Changes
A-10 SADL (radios)
KC-135 Inter-phone Replacement
C-5 Simulator
Night Vision Devices
WC-130J SATCOM Ground Stations

b) Changes Since Last NGRER: The AF Reserve has relied on NGREA funding in previous years to modernize its equipment to meet Total Force Mission Requirements. The major difference in this year's report is the emphasis on the challenges to modernize and fulfill future AFRC equipment requirements. This report reemphasizes how the AF Reserve continues to be a vital partner as part of the Total Force while facing a tremendous funding challenge due to the reduction in NGREA and AF funding. The following sections highlight the requirement shortfalls and modernization issues that could undermine AFRC's operational capabilities.

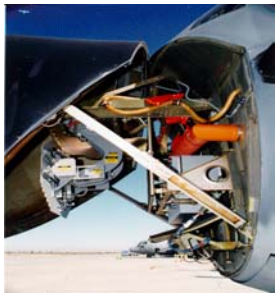
c) Future Years Program (FY 2002-FY 2004)

(1) Equipment Requirements: The following are unfunded, priority, major equipment requirements that were validated by the AFRC Requirements Review Board. AFRC continues to pursue AF and OSD support to provide funding necessary to meet these equipment needs.

KC-135 Re-Engine. This requirement is to replace all "E" model engines with "R" model engines. This requirement will also provide larger flight control surfaces and improved landing gear and brakes. The total program needs include kits and installation for a total of 16 aircraft.

C-141 8.33Khz Radios. Currently the AFRC C-141 fleet does not have 8.33 Khz radios, which would allow unrestricted airspace access and operations in the European Theater. The total program quantity required is 45 sets. A waiver to the "sundown" statue to allow their procurement would better allow the AFRC to meet its global mobility requirements.

HC-130 FLIR. This requirement is for an AAQ-22 FLIR Sensor to be installed on the HC-130P aircraft recently gained from the ANG. This sensor will enhance situational awareness by enhancing visibility during low level, air refueling and airdrop operations during night and adverse weather conditions.



HC-130 FLIR

HH-60 SATCOM Radios. A need exists for AN/ARC-210 radios in the HH-60 helicopters to enhance satellite communications. The radios will improve mission performance by providing time-critical and reliable beyond line-of-sight communication capability.

F-16 Color Displays. Current AF Reserve F-16s use black and white displays. Hi-definition, color, multi-functional displays will enable the F-16 to capture more precise, informative data, thus improving target interpretation, advancing situational awareness, and increasing electro-optical weapons and targeting system visual accuracy.

F-16 Advanced Central Interface Unit (ACIU). Capabilities of the existing ACIU cannot accommodate the integration of new generation 'Smart Weapons' and prevent achieving the full potential of the aircraft. Future capabilities planned for integration on the F-16 will be limited or impossible under electronic signal processing constraints imposed by the current ACIU. The ACIU upgrade project will provide the required weapons interface, communication and data processing for the Block 25/30/32 F-16.

A-10 LARS. The Lightweight Airborne Recovery System (LARS) is an airborne electronic system that is used to precisely locate survivors who are equipped with the AN/PRC-112 survival radio. To locate a survivor, the airborne LARS transmits short coded messages and the radio set on the ground receives the signal and sends a coded reply. The received message is decoded on the aircraft and the data is calculated to provide range/steering inputs for the pilot to locate the survivor.

C-130 ALR-169 Radar Warning Receiver. The ALR-169 provides the C-130 with a Radio Frequency detection capability that will allow crews to verify and/or avoid hostile Surface to Air Missile and Anti-Aircraft Artillery Radar sites.

Armors for C/HC-130. These are lightweight Kevlar armors mounted on the side and bottom of the HC-130 flight deck, giving crews added protection. C-130 aircraft provides theater tactical airlift while HC-130 aircraft conduct Combat Search and Rescue refueling operations at low altitudes. These operations often occur in a small arms and AAA threat environment.

Scope Shield Tactical Radios. These radios will replace the older and unsupportable SSI tactical field radio set for all AFRC Force Protection units. SSII radios have proven the capability of providing adequate and necessary secure communication links during training exercises and contingency operations.

F-16 Helmet Mounted Cueing System (HMCS). HMCS will provide F-16 pilots an integrated capability through combining of data from the multi-functional displays, instrumentation, and other on-board avionics. It will significantly improve Air-to-Air and Air-to-Ground mission effectiveness by providing Heads Up Display information and spatial cueing directly onto an aircrew helmet visor.

HH-60G Flight Engineer Seats. This modification consists of replacement of the current HH-60G rescue helicopter flight engineer seat with an energy absorbing and crashworthy seat. The original seat was designed for short training flights for PJs (pararescue personnel) and flight engineers. It is disproportionately firm and has no back and movement support for the crew. Due to extended periods of flying as part of rescue or mid-air refueling missions, this seat has become an operational burden, causing crewmembers excessive fatigue leading to mission degradation.

A-10 MTT/UTD Engineering Changes. Four A-10 MTTs/Unit Training Devices (UTD) are being procured for AFRC A-10 squadrons. As the aircraft receive new modifications the UTDs must be upgraded to reflect the same configuration as the aircraft. Upcoming modifications that will impact the UTDs include the Situational Awareness Data Link, Embedded GPS/INU, Digital Terrain System, Distributed Mission Training, Integrated Mission Planning /Rehearsal, and Mission Replay.

F-16 Pylon Integrated Dispenser System (PIDS). This PIDS universal upgrade is a modification to the PIDS that allows the aircraft to be in compliance with Military Standard 1760 for electronics bus. The MIL STD 1760 interface is necessary to support "Smart Weapons" integration. The term "Smart Weapons" is used to describe a range of weapons that use the GPS for trajectory guidance.

(2) New Equipment Procurements: In FY 2001, AFRC received $5 million in NGREA money. This will allow AFRC to procure a limited amount of equipment. The following equipment procurement efforts were selected as the most critical to pursue within the total authorized amount.

- HC-130 FLIR
- Armors for C/HC-130
- Scope Shield II Tactical Radio
- HH-60G Flight Engineer and PJ Seats

(3) Transfer and withdrawals from AC to RC: As AFRC has gained the lead responsibility for Special Operations Support, including penetration and support activities, it now owns all the MC-130E aircraft (Combat Talon I). As part of this transition, AFRC transferred all of its MC-130P (Combat Shadow) aircraft to the Active AF. While these aircraft transferred between the AF and AFRC, the highly trained and specialized aircrews stayed with their aircraft. The AFRC's 5th Special Operations Squadron is now an Associate unit of the Active AF's 9th Special Operations Squadron flying the MC-130P aircraft. The Active AF's 8th Special Operations Squadron is, in turn, an Associate to the AFRC's 711th Special Operations Squadron, flying the MC-130E.

(4) Equipment shortages and modernization shortfalls: Please see previous sections.

(5) Effects On Overall Readiness: The AF Reserve has forces mobilized to support nearly every contingency worldwide, including domestic humanitarian relief missions. There has been no impact on readiness attributable to this mobilization. All of the selective reserve units are fully capable of meeting their required response time. This impressive capability is evident and represents the RC model to seamless integration into gaining MAJCOMs operational employment. AFRC forces are fully integrated into the Global Reach laydown. With the establishment of the 10 AEFs all of the AF Reserve combat support forces will be continually integrated with active component forces in meeting the overall operational employment requirements in contingencies in all theaters of operations.

AFR units' combat readiness and mobilization are regularly evaluated in accordance with the Active AF Inspection system. Operational Readiness Inspections (ORI) are accomplished by gaining major commands every four years. The inspections system measures unit's ability to mobilize and deploy, as well as its combat readiness. Medical units (previously evaluated repeatedly by the AF Inspection Agency) are now included in ORIs to ensure they are ready to meet their wartime taskings. Reserve units are measured against the same standards and criteria required of an active duty unit.

d) Remaining Shortfalls and Unfunded Requirements: Please see *Table 8*.

e) Summary: AFRC has come a long way with the help of the active component and Congress in obtaining much-needed operational equipment and combat essential items. Through the hard work and dedication of AF Reserve men and women, reserve personnel participate in real-time contingencies as a critical partner on the AF team. To ensure a sharp and ready edge, the AF Reserve plans, programs, and facilitates its equipment requirements within the AF budget. AFRC requirements are presented, analyzed, and advocated under the same process used by the AF. In addition, the AF Reserve utilizes its internal Requirements Review process to further prioritize, validate, and source below the line and unfunded requirements. It engages in vigorous modernization efforts to provide the capability required to meet the war fighter needs.

The AF Reserve steadfastly upholds the core values of Integrity First, Service Before Self, and Excellent In All We Do as its operating standards.

AFRC

Table 1

Consolidated Major Item Inventory and Requirements

NOTE: This table provides a comprehensive list of selected major items of equipment. It provides the quantity on-hand (QTY O/H) projected to be in the inventory at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) needed to meet full wartime requirements of the Reserve component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment which should be in the inventory of each Reserve component.

NOMENCLATURE	*EQUIP No.*	*Beginning FY 2002 COST*	*Beginning FY 2002 QTY O/H*	*Beginning FY 2003 QTY O/H*	*Beginning FY 2004 QTY O/H*	*Ending FY 2004 QTY O/H*	*Ending FY 2004 QTY REQ*
FIGHTER A-10A	A-010A	10,280,000	39	39	39	39	**39**
BOMBER B-52H	B-052H	56,016,600	8	8	8	8	**8**
AIRLIFT C-5A	C-005A	160,287,200	28	28	28	28	**28**
AIRLIFT C-130E	C-130E	12,483,100	20	20	20	20	**20**
AIRLIFT C-130H	C-130H	31,574,900	76	76	76	76	**76**
AIRLIFT C-141C	C-141C	44,372,700	40	49	37	29	**29**
FIGHTER F-16C	F-016C	19,721,200	55	55	55	55	**55**
FIGHTER F-16D	F-016D	19,721,200	5	5	5	5	**5**
RESCUE HC-130N	HC-130N	19,301,600	4	4	4	4	**4**
RESCUE HC-130P	HC-130P	19,301,600	6	6	6	6	**6**
RESCUE HH-60G	HH-060G	9,755,700	21	21	21	21	**21**
AIR REFUELING KC-135E	KC-135E	44,000,000	16	16	16	16	**16**
AIR REFUELING KC-135R	KC-135R	41,540,400	48	48	48	48	**48**
SPECIAL OPS MC-130E	MC-130E	35,300,000	14	14	14	14	**14**
AIR SUPPORT OA-10A	OA-010A	10,280,000	6	6	6	6	**6**
WEATHER SVC WC-130J	WC-130J	16,800,000	10	10	10	10	**10**
* C-40 is a planned replacement for the C-22B which is being phased out of the inventory.							
** The requirement for two additional C-38A aircraft is immediate but funding is unavailable.							

AFRC
Average Age of Equipment

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for fiscal year (FY) 2002.

NOMENCLATURE	*EQUIP No.*	*AVERAGE AGE*	*REMARKS*
FIGHTER A-10A	A-010A	20	
BOMBER B-52H	B-052H	38	
AIRLIFT C-5A	C-005A	29	
AIRLIFT C-130E	C-130E	36	
AIRLIFT C-130H	C-130H	10	
AIRLIFT C-141C	C-141C	34	
FIGHTER F-16C	F-016C	13	
FIGHTER F-16D	F-016D	13	
RESCUE HC-130N	HC-130N	30	
RESCUE HC-130P	HC-130P	35	
RESCUE HH-60G	HH-060G	9	
AIR REFUELING KC-135E	KC-135E	41	
AIR REFUELING KC-135R	KC-135R	39	
SPECIAL OPS MC-130E	MC-130E	35	
AIR SUPPORT OA-10A	OA-010A	20	
WEATHER SVC WC-130H	WC-130H	34	

AFRC
Service Planned Procurements (P-1R)

NOTE: This table identifies the dollar-value of equipment programmed to be procured with Service procurment funds as identified in the P-1R exhibit of the President's budget. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; eg. items procured in FY 03 would be expected to arrive in RC inventories in FY 04 or FY 05.

NOMENCLATURE	*FY 2002*	*FY 2003*	*FY 2004*	*REMARKS*
A-10	1,600,000	2,000,000	2,600,000	
F-16	10,300,000	4,800,000	7,200,000	
C-5	26,400,000	66,000,000	86,400,000	
C-130	13,800,000	20,700,000	32,000,000	
C-135	22,700,000	38,000,000	37,900,000	
H-60	3,800,000	10,600,000	3,000,000	
OTHER AIRCRAFT	500,000			
AIRCRAFT SUPPORT EQ & FACILITIES	14,900,000	14,100,000	14,500,000	
BUSES	100,000		200,000	
AMBULANCES			100,000	
LAW ENFORCEMENT VEHICLE	100,000		*	
TRUCK, MULTISTOP 1 TON 4X2	1,200,000			
ITEMS LESS THAN $5,000,000	1,000,000	2,100,000	1,300,000	
ITEMS LESS THAN $5,000,000	100,000	2,100,000	900,000	
ITEMS LESS THAN $5,000,000	200,000		1,600,000	
TRUCK,F/L10,000 LB				
ITEMS LESS THAN $5,000,000		500,000	200,000	
TRUCK, DUMP			100,000	
ITEMS LESS THAN $5,000,000	100,000	300,000	400,000	
NATIONAL AIRSPACE SYSTEM	700,000	7,300,000		
WEATHER OBSERV/FORCAST	*		400,000	
AF GLOBAL COMMAND & CONTROL SYS	500,000	500,000	600,000	
COMBAT TRAINING RANGES	700,000	700,000	2,600,000	
BASE LEVEL DATA AUTO PROGRAM	100,000			
THEATER BATTLE MGMT C2 SYS	1,500,000			
BASE INFORMATION INFRASTRUCTURE	4,100,000	4,300,000	4,800,000	
DEFENSE MESSAGE SYSTEM (DMS)	300,000	300,000	300,000	
NAVSTAR GPS SPACE	400,000			
CCTV/AUDIOVISUAL EQUIPMENT	500,000	500,000	500,000	
ITEMS LESS THAN $5,000,000	200,000	200,000	200,000	
BASE/ALC CALIBRATION PACKAGE			100,000	
ITEMS LESS THAN $5,000,000	300,000	500,000	500,000	
NIGHT VISION GOGGLES	200,000	100,000	200,000	
ITEMS LESS THAN $5,000,000	200,000	200,000	200,000	
MECHANIZED MATERIAL HANDLING EQUIP	200,000			
ITEMS LESS THAN $5,000,000	300,000	400,000	400,000	
FLOODLIGHTS	200,000	200,000	*	
ITEMS LESS THAN $5,000,000	200,000	200,000	300,000	
PHOTOGRAPHIC EQUIPMENT	300,000	200,000	200,000	
AIR CONDITIONERS	200,000	100,000	100,000	
ITEMS LESS THAN $5,000,000	800,000	800,000	800,000	
TOTAL	**$108,700,000**	**$177,700,000**	**$200,600,000**	
* Items less than $50,000				
# The above figures do not include ammunition				

AFRC

National Guard and Reserve Equipment Appropriation (NGREA) Procurements

NOTE: This table identifies the dollar-value of equipment programmed to be procured with National Guard and Reserve Equipment Appropriations (NGREA). These funds are available for a three year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from date of procurement before they arrive in the inventory .

NOMENCLATURE	*FY 1999*	*FY 2000*	*FY 2001*	*REMARKS*
A-10 Unit Training Device-ECPs			1,340,000	
A-10 Advanced Weather Avoidance System		600,000		
A-10 Lightweight Airborne Recovery Radios		1,500,000		
A-10 SADL	2,400,000			
F-16 ALR-69 Antenna Cable Mod		2,850,000		
F-16 ALQ-131 Engineering (and Misc Equi)		2,800,000		
F-16 Precision Attack Targeting System	13,000,000			
F-16 Quick Draw Radio		262,000		
F-16 LGB Support Equipment	800,000			
HH-60G FLIR Upgrade		1,700,000		
HH-60G Flight Engineer/Gunner Seats			1,385,000	
C-130H3 Air Training System - ECPs		1,000,000		
C-130J SATCOM Ground Station	1,200,000			
C-130 Armor		1,560,000	240,000	
C-130 Night Vision Cockpit	2,000,000			
HC-130 Forward Looking Infrared			1,500,000	
HC-130 NVIS Cockpit Aircraft Lighting System		400,000		
HC-130 Armors		520,000		
HC-130 Radar Replacement		5,850,000		
Aircrew Life Support Equipment	600,000			
Scope Shield II Tac Radios			500,000	
Trunked Land Mobile Radios		900,000		
Total	**$20,000,000**	**$19,942,000**	**$4,465,000**	

AFRC
Expected Equipment Transfers and Withdrawals

NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transfered equipment is commonly called "cascaded equipment" or equipment that is provided to the RC once the Active receives more modern equipment items. Although this table highlights a three-year period, many Services do not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.

NOMENCLATURE	*EQUIP No.*	*FY 2002 QTY*	*FY 2003 QTY*	*FY 2004 QTY*	*REMARKS*
AIRLIFT C-141B	C-141B	5	8		Unit Converting from Associate to Unit Equiped
AIRLIFT C-141C	C-141C		-16	-8	C-141 Drawdown

AFRC
FY 1998 Planned vs Actual Procurements and Transfers

NOTE: This table compares what the Services planned to procure and transfer to the Air Force Reserve Command in FY 1998 with actual procurements and transfers. Since the procurement cycle is normally one to two years from funding to delivery, this table identifies what has been delivered through the end of FY 2000.

Nomenclature	*Equip No.*	*FY 98 Transfers*		*FY 98 Procurements*		*FY 98 NGREA*					
		Planned	*Actual*	*Planned*	*Actual*	*Planned*	*Actual*				
RESCUE HC-130P	HC-130P	2	1					Aircraft Due Out of Depot Mod Feb 01			
WEATHER SVC WC-130H	WC-130H	-4	0					Not Transferred Due To WC-130J non-IOC			
WEATHER SVC WC-130J	WC-130J			4	4						
AIRLIFT C-130E	C-130E	-8	-8					5 to AD / 3 to AFRC as BAI			
AIRLIFT C-130J	C-130J			4	3			1 Not Yet Received From Plant			
AIRLIFT C-130H	C-130H	4	4					From AFRC BAI to PAA			
SPECIAL OPS MC-130P	MC-130P	-4	-4					Unit Coverted to Associate			
SPECIAL OPS MC-130E	MC-130E	4	4					Unit Gained Active Associate			

AFRC
Major Item of Equipment Substitution List

TABLE NOT APPLICABLE

AFRC
Significant Major Item Shortages

NOTE: This table provides an Air Force Reserve Command prioritized (PR) unfunded list for major items of equipment required for wartime missions but which are currently not funded in the FYDP. It lists the total quantity required, the total unfunded requirement (UFR), and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.

PR	*NOMENCLATURE*	*TOTAL REQ'D*	*UFR*	*UFR COST*	*Remarks*
1	KC-135 ENGINE KITS (16 Aircraft)	16		330,000,000	Model R kits required to replace E model
2	C-141 ARC-210 RADIOS (45 Aircraft)	45		8,500,000	Required to operate in European theater
3	F-16 ADVANCED CENTRAL INTERFACE UNIT (ACIU) UPGRA	72		6,650,000	Existing ACIU has poor reliability and memory problem
4	C-130 ALR-69 RADAR WARNING RECEIVER (32 Aircraft)	32		20,000,000	Existing RWR is unsupportable due to hi MTBF
5	HC-130 FLIR (AAQ-22)	1		1,500,000	
6	C-130 ARMOR x6 (Move to FY00 if AWAS No Go)	6		720,000	
7	F-16 DISPLAY PROCESSOR	72		15,000,000	Current monochrome displays drop out due to poor processor
8	TACTICAL RADIOS (Multi-yr)	60		4,000,000	Replace Scope Shield I radio to be interoperable
9	F-16 HELMET MOUNTED CUEING (HMCS) (Multi-yr)	72		9,000,000	
10	KC-135 IMPROVED LATRINE (Multi-year)	64		1,700,000	

Chapter 6
United States Coast Guard Reserve

I. Coast Guard Overview

a) Overall Coast Guard-wide Planning Guidance: The U.S. Coast Guard is a military service and a branch of the armed forces at all times (14 U.S.C.). The Coast Guard's fundamental roles are to protect the American public, the environment, and U.S. economic and security interests. The Coast Guard provides unique capabilities that are increasingly relied upon by the Unified Commanders in Chief (CINC).

A Memorandum of Agreement (MOA) between the Department of Defense and the Department of Transportation entitled "Use of U.S. Coast Guard Capabilities and Resources in Support of the National Military Strategy" was signed by the Secretary of each Department on October 3, 1995. This MOA identifies the national defense missions for the Coast Guard, among them the mission of Port Operations, Security and Defense (POSD). Primarily an anti-terrorism and force protection (AT/FP) mission, POSD is conducted at the domestic Sea Ports of Embarkation (SPOE) and the overseas Sea Ports of Debarkation (SPOD) to ensure critical ports and harbors are free of hostile threats, terrorist actions and safety deficiencies.

The POSD mission is vital as it ensures the unimpeded flow of our Nation's war fighting equipment and supplies through the SPOE and SPOD during Major Theater War operations (MTW) and military operations other than war (MOOTW). The lack of a port security capability was noted in lessons learned from Operations PROVIDE RELIEF/RESTORE HOPE (Somalia). In these types of operations, logistics sustainment for U.S. or allied forces passed through coastal ports and was potentially vulnerable to hostile actions.

b) Equipping Policy for the Coast Guard Reserve: Unique to the Coast Guard is a provision of law, found in 14 U.S.C. 712, which allows the Secretary of Transportation to involuntarily recall Coast Guard reservists to augment Active component (AC) units in the event of a natural or man-made disaster. Equipment for these types of events is provided by Active Coast Guard units from existing unit inventory, from supporting units, or through contemporaneous procurement.

Equipment for domestic mission support is provided for within the Department of Transportation budget. A combination of Coast Guard and Department of Defense funding provides the equipment necessary for the Coast Guard to perform its defense responsibilities. This includes weapons systems aboard cutters, as well as communications systems that allow Coast Guard vessels to be interoperable with the U.S. Navy and allied fleets during joint operations. Additional items of military equipment are required for Port Security Units (PSU), joint Navy/Coast Guard Harbor Defense Command Units (HDCU), and Mobile Support Units (MSU). These items include small, highly maneuverable, well-armed Transportable Port Security Boats (TPSB), specialized uniforms, personnel communications equipment, tents and vehicles. In addition to

procurement funds to capitalize major equipment items (e.g., small boats), the Coast Guard requires sustainment funding over the long-term for the deployable Coast Guard PSUs.

The Coast Guard's reserve equipping requirements encompass domestic emergency response and military contingency operations. In addition to the requirements for Naval Coastal Warfare (NCW) expeditionary operations, the Coast Guard has domestic military responsibilities relating to port safety and security, load-out of military cargo at Strategic SPOE and response to Weapons of Mass Destruction (WMD) incidents.

c) Plan to Fill Mobilization Requirements: The training employment of Coast Guard reservists, other than those assigned to the deployable units, is through direct augmentation of Active component units using equipment in the Active unit inventory. The deployable units include six PSUs, nine HDCUs and one MSU. These deployable units are comprised of Selected Reserve personnel who may be involuntarily called to active duty. They train and mobilize as units.

Under 10 U.S.C. 12304, Order to Active Duty Authority, Coast Guard reservists may be mobilized when the President determines that it is necessary to augment Active forces for any operational mission. Upon full mobilization under 10 U.S.C. 12301, approximately 15 percent of the Coast Guard Selected Reserve would be assigned to deployable PSUs, HDCUs, and MSUs. The remainder would mobilize to augment Active component Coast Guard units at strategic U.S. ports, to conduct port safety/security functions.

d) Current Coast Guard Initiatives Affecting RC Equipment: Normally, for peacetime training, Coast Guard Reserve personnel utilize equipment already available at AC units. This is in keeping with the fundamental Service approach under which Selected Reserve (SELRES) personnel are assigned to Active component units to train and augment while performing day-to-day Coast Guard missions. SELRES personnel constitute nearly 20 percent of the uniformed Coast Guard strength and are a critical asset to Active component units as round-out personnel for peacetime operational missions, as well as surge resources for natural or man-made disasters.

PSUs, HDCUs, and MSUs are traditional drilling units for which there are no AC counterparts. The Coast Guard, through normal procurement procedures, has provided personal protective equipment to some of these units. For instance, four of six PSUs have been outfitted with Advance Chemical Protective Garments (ACPGs).

e) Plan to Achieve Compatibility with AC: Coast Guard reservists are fully integrated in the active commands. Reservists are assigned to AC units to train and augment while performing day-to-day Coast Guard missions.

II. Coast Guard Reserve Overview

a) Current Status of the Coast Guard Reserve

(1) Harbor Defense Command Units (HDCU): The HDCUs perform command and control, port operations management, and liaison functions for harbor defense and port security outside the continental United States in support of a CINC. These forces, among the first to arrive, are deployed during the earliest stages of a contingency to provide safe and secure ports for off-loading of troops and equipment into a military theater of operations.

Each HDCU is actually a blend of approximately 35 Coast Guard Reserve and Naval Reserve personnel. They act as the command and control element for POSD overseas. The commanding officer may be a member of the U.S. Coast Guard Reserve or the U.S. Naval Reserve. The HDCU has command and control over all NCW operating units for the mission, including Coast Guard PSUs, and Explosive Ordnance Disposal Units, Mobile Diving and Salvage Units, Inshore Boat Units, and Mobile Inshore Undersea Warfare Units from the USNR.

(2) Coast Guard Port Security Units (PSU): The PSUs provide interdiction and interception platforms for the deployed mission. Each PSU operates six TPSBs. They arrive in theater with their own unit maritime security capabilities. In the Persian Gulf War, self-sufficient PSUs were among the few rear-echelon units deployed to theater with considerable self-sustainment capabilities. PSUs continue to participate in numerous annual joint training exercises. In 2000 these exercises included Operation FOAL EAGLE and Operation BRIGHT STAR. In the wake of the USS COLE incident, a 37-person (four TPSBs) PSU detachment deployed with the primary mission of providing force protection for USN combatants and supply ships entering/departing a key logistics port. A second PSU Maritime Security Detachment, comprising 23 persons, deployed in January 2001. Armed with .50 cal machine guns and M16's, this detachment was assigned to provide antiterrorism/force protection to logistics ships transiting the Arabian Gulf.

(3) Mobile Support Unit (MSU): The MSU is an expeditionary unit equipped to provide hull, mechanical, and electrical logistics support to forward deployed Coast Guard 110-foot Patrol Boat (WPB) squadrons. The MSU concept was initially established in 1987 to deploy for DOD operations. To date, the MSU has proven its value for many peacetime and homeland defense missions including counter narcotics (FRONTIER SHIELD 1996 and FRONTIER LANCE 1998) and alien migrant interdiction (ABLE MANNER 1994), in addition to other surge operations (SAIL BOSTON 1992, the 1996 Olympics, and OPSAIL 2000).

(4) Weapons of Mass Destruction Response Capability: The Coast Guard is capable of responding to a WMD incident in two significant ways. First, Coast Guard On Scene Commanders (OSC) can respond at the local level in coordination with of the Environmental Protection Agency or the Federal Emergency Management Agency

(FEMA) as per Emergency Support Function #10 of the Federal Response Plan and the National Contingency Plan. The OSCs will provide command and control but will not be in a position to provide Coast Guard first responders. Second, the Coast Guard's National Strike Force has the capability, in its three Strike Teams (each consisting of approximately 40 reservists and 45 active duty personnel) to respond to chemical incidents. Strike Teams have been deployed in this capacity in Atlanta and Denver in support of special events. The roles of the FBI, as lead agency for crisis management, and FEMA, as lead agency for consequence management of a terrorist attack, are outlined in Presidential Decision Directive 39.

b) Major Changes Since Last Report: PSU 307, 308, and 313 became fully operational for worldwide deployment during FY 2000.

c) Future Years Program: Current CINC operational plans validate a requirement for all the HDCUs and PSUs that are currently available. Six PSUs currently exist (one each based in Virginia, Florida, Mississippi, Ohio, California, and Washington). All nine HDCUs are organized and trained, albeit with very limited amounts of equipment. A total of five are located on the Atlantic and Gulf coasts; four are located on the Pacific Coast.

The Coast Guard has one MSU. Stand-up of a second MSU Reserve Unit has been a frequent active duty request, however, this is a chronically unfunded program.

CINC OPLANS call for an even stronger PSU capability than currently exists, in order to respond to domestic port security and safety contingency operations. As a result, the Coast Guard routinely sought additional funding to establish and fully outfit two more PSUs. In the wake of the attack on the USS COLE, there has been increasing attention and emphasis on the need to establish an active duty PSU-like capability to more adequately address the full spectrum of port security and defense requirements. The Coast Guard is studying an active duty option with significant reserve augmentation and has deferred all action on past initiatives to establish two additional Reserve Component PSUs.

TPSBs are the primary tools that PSUs employ to conduct their mission in support of CINC requirements. FY 1998/99 funding was used to replace the current inventory of TPSBs, which had exceeded their useful service life, and to procure similar equipment for the three new PSUs. It is anticipated, given the approximate eight to ten year life expectancy of the new TPSBs, that the Coast Guard will begin a phased replacement project beginning in FY 05 to replace the 43 TPSBs [those assigned to the six existing PSUs and 7 assigned to the Port Security Training Detachment (PSU TRADET) at Camp LeJeune, North Carolina].

d) Shortfalls

(1) Port Security Unit Strength: In The Persian Gulf War, 100 percent of the Coast Guard PSU capability was deployed, leaving no backup for normal rotation of

personnel/units or replacement equipment. Despite the considerably smaller scale of Operation UPHOLD DEMOCRACY in Haiti, PSU requirements were such that 50 percent of Coast Guard capabilities were deployed for security operations. Based on current CINC requirements, the Coast Guard should have more than six PSUs for world-wide deployment.

(2) Port Security Unit Equipment: The original funding to establish the Coast Guard's six PSUs did not purchase all the required equipment. Though considerable supplemental funding has been received, equipment and supply shortages persist. As a result, these deficiencies have resulted in degradations in unit readiness as documented by the PSU's Status of Resources and Training (SORTS) submissions. Current shortfalls exist in safety, intelligence, communications, medical, CBR, personnel support facilities (tents, field kitchens, ADP equipment, MREs, etc.), supplies and equipment. The equipment used during the current USCINCCENT deployments, along with re-capitalization needs, represent a serious shortfall (see Table 8).

(3) Chemical, Biological and Radioactive Equipment: CBR equipment on-hand for Coast Guard Reserve personnel assigned to the Marine Safety Offices who have a DOD Strategic load-out responsibility are drastically below requirements. During a military load-out contingency, the current mobilization requirements call for in excess of 3500 Reserve personnel. In order for the Coast Guard to meet their CONUS Strategic Load-out port commitments, a substantial stocking of Bio-Chem Mission Oriented Protective Posture (MOPP) gear would be required for this force of 3500 personnel.

Additionally, CBR equipment requirements for nine HDCUs and two NCW Groups are not being met. MOPP gear is required to outfit this force to meet their requirements. *Table 8* depicts the current shortfalls.

(4) Mobile Support Unit Equipment: The Coast Guard provides considerable Coast Guard patrol boat capability to support CINC war plans. Currently, the Coast Guard maintains inadequate capability in its one MSU to support patrol boat maintenance requirements when deployed. The Coast Guard would like to upgrade the program in order to ensure that patrol boats meet readiness requirements necessary to support CINC plans. The Navy has recently funded the construction of 110-foot WPB Shipping Cradles to expediently transport these assets overseas. This initiative has increased the feasibility that these cutters will be called upon to serve in overseas theaters. It is imperative full funding is available to the Mobile Support Units to ensure that Coast Guard patrol boats are properly maintained and ready to meet CINC requirements. Current MSU equipment shortfalls are shown in *Table 8*.

e) Summary and Conclusion: Improving capabilities to meet national security requirements and optimizing resources is a priority for the Coast Guard. Having the right equipment on hand to do the job safely and effectively, however, is a challenge in the current resource constrained climate.

The Coast Guard has not received any funding through the NGREA. However, this report points out the gaps that exist between requirements and current inventories. These shortages directly impair the Coast Guard's ability to meet CINC requirements worldwide and national security concerns in the United States.

USCGR

Table 1

Consolidated Major Item Inventory and Requirements

NOTE: This table provides a comprehensive list of selected major items of equipment. It provides the quantity on-hand (QTY O/H) projected to be in the inventory at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) needed to meet full wartime requirements of the Reserve component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment which should be in the inventory of each Reserve component.*

NOMENCLATURE	***EQUIP No.***	***Beginning FY 2002 UNIT COST***	***Beginning FY 2002 QTY O/H***	***Beginning FY 2003 QTY O/H***	***Beginning FY 2004 QTY O/H***	***Ending FY 2004 QTY O/H***	***Ending FY 2004 QTY REQ***
Port Security Units:							
25' TPSB (6 per unit)		65,000	42	42	42	54	54
175HP OUTBOARD MOTOR (2 per boat/6 total spares)		7,000	126	126	126	162	162
VEHICLE, F350 PICKUP (2 per unit)		45,000	14	14	14	18	18
VEHICLE, F350 12-PASSENGER VAN (1 per unit)		45,000	7	7	7	9	9
VEHICLE, F550 STAKEBED (1 per unit)		45,000	7	7	7	9	9
RADIO, TRI-BAND (1 per boat/2 total spares)		25,000	56	56	56	72	72
RADIO, VHF/FM SPECTRA (1 per boat, 4 total spares)		3,500	70	70	70	90	90
RADIO, TRI-BAND, BASE (1 per unit/1 spare)		25,000	14	14	14	18	18
PSU EQUIPMENT PACKAGE		1,715,000	6	6	6	8	8
Mobile Support Units:							
TRAILER, CONNEX BOX		30,000	22	22	22	22	22
TRUCK, PICK-UP		25,000	2	2	2	2	2
TRUCK, STAKEBED		30,000	4	4	4	4	4
TRUCK, TRACTOR TRAILER		105,000	2	2	2	2	2
MSU EQUIPMENT PACKAGE		213,500	0	0	0	0	0
FORKLIFT, 10,000 LB		20,000	1	1	1	1	1
GENERATOR SET 160KW & SPARE PARTS KIT		23,000	2	2	2	2	2
WELDER, GAS POWERED		3,000	1	1	1	1	1
TRAILER HEATING SYSTEM		50,000	0	0	0	0	0
WMD Response Gear:							
LEVEL A SUITS		600	126	126	126	126	126
CHEM-BIO DETECTION EQUIPMENT		9,000	2	2	2	2	2
LEVEL A COMMUNICATIONS SUITES		30,000	0	0	0	0	3
* Numbers reflect major equipment purchase to outfit two additional PSUs in FY04							

USCGR
Average Age of Equipment

NOTE: This table provides the average age of selected major items of equipment. The average age provides a projected age of the fleet for fiscal year (FY) 2002.

NOMENCLATURE	***EQUIP No.***	***AVERAGE AGE (yrs.)***	***REMARKS***
Port Security Units:			
25' TPSB		10	
175HP OUTBOARD MOTOR		10	
VEHICLE, F350 PICKUP		10	
VEHICLE, F350 12-PASSENGER VAN		10	
VEHICLE, F550 STAKEBED		10	
RADIO, TRI-BAND (1 per boat/2 spares)		7	
RADIO, VHF/FM SPECTRA		7	
RADIO, TRI-BAND, BASE		7	
Mobile Support Units:			
TRAILER, CONNEX BOX		18	
TRUCK, PICK-UP		13	
TRUCK, STAKEBED		10	
TRUCK, TRACTOR TRAILER		N/A	

USCGR
Service Planned Procurements

Table 3

NOTE: This table identifies the dollar-value of equipment programmed to be procured with Service procurement funds as identified in the President's budget. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; eg. items procured in FY 03 would be expected to arrive in RC inventories in FY 04 or FY 05.

NOMENCLATURE	***FY 2002***	***FY 2003***	***FY 2004***	***REMARKS***
2 ADDITIONAL PORT SECURITY UNITS:				
25' TPSB (6 per unit)			780,000	
175 HP OUTBOARD MOTOR (2 per boat/6 total spares)			252,000	
VEHICLE, F350 PICKUP (2 per unit)			180,000	
VEHICLE, F350 12-PASSENGER VAN (1 per unit)			90,000	
VEHICLE, F550 STAKEBED (1 per unit)			90,000	
RADIO, TRI-BAND (1 per boat/2 total spares)			400,000	
RADIO, VHF/FM SPECTRA (1 per boat, 4 total spares)			70,000	
RADIO, TRI-BAND, BASE (1 per unit/1 spare)			100,000	
TOTAL:			**$1,962,000**	

National Guard and Reserve Equipment Appropriation (NGREA) Procurements

TABLE NOT APPLICABLE

USCGR
Projected Equipment Transfer/Withdrawal Quantities

TABLE NOT APPLICABLE

USCGR
FY 1998 Planned vs Actual Procurements and Transfers

TABLE NOT APPLICABLE

USCGR
Major Item of Equipment Substitution List

TABLE NOT APPLICABLE

USCGR
Significant Major Item Shortages

NOTE: This table provides a Coast Guard Reserve prioritized (PR) shortage list for major items of equipment required for wartime missions but which are currently not funded. It lists the total quantity required, the total short, and the cost of the shortage. This data is consistent with other data submitted by the Service.

PR	NOMENCLATURE	TOTAL REQ'D	SHORT	SHORTAGE COST	RATIONALE / JUSTIFICATION
	CRITICAL EXPEDITIONARY UNIT SHORTFALLS:				
1	MAJOR EQUIPMENT SHORTFALLS	*1	0	2,999,636	Current major equipment shortfalls for daily mission training.
2	DEPLOYMENT INVENTORY SHORTFALLS	*1	0	3,169,150	Standard load-out project (support mobilization/deployment of PSUs)
	(Table of Allowances)				
	CRITICAL EXPEDITIONARY UNIT SUBTOTAL:			**$6,168,786**	
3	*MSU EQUIPMENT:*				
	TRUCK, TRACTOR TRAILER	2	2	210,000	
	TRAILER, CONNEX BOX (replace 22 and 1 additional)	23	23	690,000	
	TRUCK, PICK-UP	3	1	25,000	
	TRUCK, STAKEBED	4	0	0	
	FORKLIFT, 10,000 LB	2	1	20,000	
	GENERATOR SET 160KW & SPARE PARTS KIT	2	0	0	
	WELDER, GAS POWERED	2	1	3,000	
	MSU EQUIPMENT PACKAGE	1	1	213,500	
	TRAILER HEATING SYSTEM	1	0	0	
	MSU EQUIPMENT SUBTOTAL:			**$1,161,500**	Chronically unfunded MSU has extensive current shortfalls
4	*WMD RESPONSE GEAR:*				
	LEVEL A SUITS	156	30	18,000	
	CHEM-BIO DETECTION EQUIPMENT	12	10	90,000	
	LEVEL A COMMUNICATIONS SUITES	3	3	90,000	
	WMD RESPONSE GEAR SUBTOTAL:			**$198,000**	Current shortfalls in CBR gear and response capability
5	PRE-DEPLOYMENT EQUIPMENT (Expeditionary Unit)	*1	0	**$3,008,399**	Pre-positioning of forward-deployed eqpt. to support CINC OPLANs
	TOTAL:			**$10,536,685**	

**** All equipment in these categories required to support operational training and response requirements mandated in CinC OPLANs. Detailed line items for these categories are available from the Coast Guard in separate lists.***

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Appendix B
Acronym Glossary

Acronym	Nomenclature	Service
AAO	Approved Acquisition Objective	M
AAV	Assault Amphibian Vehicle	M
AAAV	Advanced Amphibious Assault Vehicle	M
AC	Active Component	All
ACC	Air Combat Command	AF
ACIU	Advanced Central Interface Unit	AF
ACTS	Air Combat Training System	AF
ADI	Attitude Directional Indicator	AF
ADRS	ARNG Division Redesign Study	A
AE	Aeromedical	AF
AEF	Aerospace Expeditionary Force	AF
AEP	Army Equipping Policy	A
AF	Air Force	AF
AFR	Air Force Reserve	AF
AFRC	Air Force Reserve Command	AF
AIM9X	Air Intercept Missile (9X Series)	AF
AIP	Anti-Surface Warfare Improvement Program	N
AKITS	Alpena Kadena Interim Training System	AF
AMC	Air Mobility Command	AF
AMCM	Airborne Mine Countermeasures	N
AMP	Avionics Modernization Program	AF, M
AMRAAM	Advanced Medium Range Air-to-Air Missile	N
AMSA	Area Maintenance Support Activities	A
ANG	Air National Guard	AF
APN	Aircraft Procurement - Navy	M
ARC	Air Reserve Component	AF
ARNG	Army National Guard	A
ATLAS	All Terrain Lifter Articulated System	A
ATLASS	Asset Tracking Logistics and Supply System	M
AVLB	Armored Vehicle Launched Bridges	A
BES	Budget Estimate Submission	AF
BFV	Bradley Fighting Vehicle	A
BLOS	Beyond Line-of-Sight	AF
BY	Budget Year	All
C4ISR	Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance	N
CA	Civil Affairs	A
CAF	Combat Air Force	AF
CAM	Chemical Agent Monitors	A
CAVTR	Color Airborne Video-Tape Recorder	AF
CBR	Chemical, Biological, and Radiological	CG
CBT	Common Bridge Transport	A
CBT	Computer Based Training	AF
CCIP	Common Configuration Improvement Program	AF
CDS	Combat Development System	M
C-E	Communications-Electronics Equipment	A
CE	Construction Equipment	A
CEUCE	Common End User Computer Equipment	M
CHS	Controlled Humidity Storage	A
CID	Combat Identification	AF

Appendix B
Acronym Glossary

Acronym	Nomenclature	Service
CINC	Commander-in-Chief	All
CINCLANTFLT	Commander-in-Chief, Atlantic Fleet	N
CINCPACFLT	Commander-in-Chief, Pacific Fleet	N
CIS	Combat Intelligence System	AF
CMS	Countermeasures Management System	AF
CONPLAN	Contingency Plan	N
CNO	Chief of Naval Operations	N
CNS/ATM	Communication, Navigation, Surveillance/Air Traffic Management	M
CONUS	Continental United States	All
COTS	Commercial Off-the-Shelf	AF
CQ	Combat Quadrangle	AF
CRTC	Combat Readiness Training Center	AF
CS	Combat Support	A
CSA	Army Chief of Staff	A
CSAR	Combat Search and Rescue	AF
CSS	Combat Service Support	A
CUCV	Commercial Utility Cargo Vehicles	A
CUPID	Combat Upgrade Plan Integration Details	AF
DAMPL	Department of the Army Master Priority List	A
DMT	Distributed Mission Training	AF
DOD	Department of Defense	All
DOT	Department of Transportation	CG
EAC	Echelons Above Corps	A
EAD	Echelons Above Division	A
EAF	Expeditionary Aerospace Force	AF
EC	Electronic Combat	AF
ECM	Electronic Countermeasures	AF
ECP 583	Engineer Change Proposal 583	M
ELSF	Expeditionary Logistics Support Force	N
EOD	Explosive Ordnance Disposal	N
EODMU	Explosive Ordnance Disposal Mobile Unit	M
EOH	Equipment On-hand	A
EPA	Environmental Protection Agency	All
EPLRS	Enhanced Position Location Reporting System	A, AF
eSB	Enhanced Separate Brigade	A
ESL	Expected Service Life	A
ESP	Extended Service Program	A
EW	Electronic Warfare	AF
EWMS	Electronic Warfare Management System	AF
FAADC2	Forward Area Air Defense Command and Control	A
FDL	Fighter Defense Link	AF
FEMA	Federal Emergency Management Agency	N, CG
FFG	Guided Missile Frigate	N
FLIR	Forward Looking Infra-Red	AF
FMT	Full Mission Trainer	AF
FMTV	Family of Medium Tactical Vehicles	A
FP	Force Package	A
FSP	Force Support Package	A
FTU	Formal Training Unit	AF
FY	Fiscal Year	All

Appendix B
Acronym Glossary

Acronym	Nomenclature	Service
FYDP	Future Years Defense Plan	All
GATM	Global Air Traffic Management	AF
G-FAC	Ground -- Forward Air Control	AF
GPS	Global Positioning Systems	All
HARM	High Speed Anti-Radiation Missile	AF
HDCU	Harbor Defense Command Unit	CG
HEMTT	Heavy Expanded Mobility Tactical Truck	A
HETS	Heavy Equipment Transporter System	A
HIMARS	High Mobility Artillery Rocket System	M
HMDS	Helmet Mounted Display System	AF
HMMWV	High Mobility Multi-Purpose Wheeled Vehicles	A, M
HNVS	Helicopter Night Vision Systems	M
HQDA	Headquarters, Department of the Army	A
HTS	HARM Targeting System	AF
IAP	International Airport	AF
IDM	Improved Data Modem	AF
IMA	Intermediate Maintenance Activity	M
INS	Inertial Navigation System	AF
IOC	Initial Operational Capacity	AF
JDAM	Joint Directed Attack Munitions	AF
JSF	Joint Strike Fighter	M
JTCTS	Joint Tactical Combat Training System	AF
JTRS	Joint Tactical Radio System	AF
LCAC	Landing Craft, Air Cushion	M
LANTRIN	LASER Aided Navigation and Targeting Infra-red for Night	AF
LARS	Lightweight Airborne Recovery System	AF
LIN	Line Item Number	A
LMTV	Light Medium Tactical Vehicle	A
LSS	Littoral Surveillance System	N
LST	Newport Class Tank Landing Ships	N
LW 55	Lightweight 55	M
MACI	Military Acquired Commercial Item	A
MACS	Mobile Approach Control System	AF
MAFFS	Modular Airborne Fire Fighting System	AF
MAGTF	Marine Air-Ground Task Force	M
MARCORLOGBASES	Marine Corps Logistics Bases	M
MARFORRES	Marine Force Reserve	M
MCM	Mine Countermeasures	N
MCREM-R	Marine Corps Readiness Equipment Module-Reserves	M
MCS	Modular Causeway System	A
MCS 21	Marine Corps Strategy 21	M
MCU	Multiple-Component Unit	A
MFD	Multi-Function Display	AF
MHC	Coastal Mine Hunter	N
MHE	Material Handling Equipment	A
MIE	Major Items of Equipment	AF
MIUW	Modernization of the Mobile Inshore Undersea Warfare	N
MLRS	Multiple Launch Rocket System	A
MOA	Memorandum of Agreement	CG
MOPP	Mission Oriented Protective Posture	CG

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Acronym Glossary

Acronym	Nomenclature	Service
MoTES	Mobile Threat Emitter System	AF
MSU	Mobile Support Unit	CG
MTBF	Mean Time Between Failure	AF
MTT	Multi-Task Trainer	AF
MTV	Medium Tactical Vehicle	A
MTVR	Medium Tactical Vehicles Replacement	N, M
MTW	Major Theater War	All
MUTES	Multiple Threats Emitter System	AF
NAVELSF	Naval Expeditionary Logistics Force	N
NCF	Naval Construction Force	N, CG
NCW	Naval Coastal Warfare	N
NGREA	National Guard and Reserve Equipment Appropriation	All
NMS	National Military Strategy	A
NRF	Naval Reserve	N
NRF	Naval Reserve Force	N
NSF	National Science Foundation	A
NVG	Night Vision Goggles	A, AF
NVIS	Night Vision Imaging System	AF
O&M	Operations and Maintenance	A, AF
OCONUS	Out of the Continental United States	CG
OMFTS	Operational Maneuver From the Sea	M
OPLAN	Operational Plan	N, CG
ORI	Operational Readiness Inspection	AF
OSC	On Scene Commander	CG
OSD/RA	Office of Secretary of Defense/Reserve Affairs	All
PATS	Precision Attack Targeting System	AF
PIDS	Pylon Integrated Dispensing System	AF
PLS	Palletized Load System	A
PMC	Procurement Marine Corps	M
POM	Program Objective Memorandum	All
POP	Proof of Principle	A
POSD	Port Operations Security and Defense	CG
PPBS	Planning, Programming, Budgeting System	All
PSU	Port Security Unit	CG
QDR	Quadrennial Defense Review	AF
RAM/RS	Rebuild to Standard	M
RANS	Range Squadron	AF
RBE	Remain Behind Equipment	M
RC	Reserve components	A
RDT	Requirement Development Team	AF
RERP	Reliability Enhancement Re-engining Program	AF
RF	Radio Frequency	AF
RJ	Rivet Joint	AF
RML	Revolution of Military Logistics	A
RROC	Reserve Requirement Oversight Council	AF
RSMS	Readiness Sustainment Maintenance Site	A
RTC	Regional Training Center	AF
RTCH	Rough Terrain Container Handler	A
RWR	Radar Warning Receiver	AF
SADL	Situation Awareness Data Link	AF

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Acronym Glossary

Acronym	Nomenclature	Service
SARSS	Standard Army Retail Supply System	A
SELRES	Selected Reservist	All
SINCGARS	Single Channel Ground-Air Radio System	A
SLEP	Service Life Extension Program	M
SPO	System Program Office	AF
SPOD	Sea Ports of Debarkation	CG
SPOE	Sea Ports of Embarkation	CG
SS I	Scope Shield I	AF
SS II	Scope Shield II	AF
STAR-T	Super-High Frequency Tri-band Advanced Range Extension Terminal	A
T/A	Training Allowance	M
TFFT	Tactical Fire Fighting Truck	A
T/O&E	Table of Organization and Equipment	M
TAA-XX	Total Army Analysis (XX= Year)	A
TACP	Tactical Air Control Party	AF
TACS	Theatre Air Control System	AF
TADIL-J	Tactical Digital Information Link-J	AF
TADSS	Training Aids, Devices, Simulators and Simulations	A
TARS	Theater Airborne Reconnaissance System	AF
TCAS	Traffic Alert & Collision Avoidance System	AF
TOA	Total Obligation Authority	A
TOA	Table of Allowance	N
TOE	Table of Equipment	CG
TPSB	Transportable Port Security Boat	CG
TQG	Tactical Quiet Generator	A
TRAINS	Threat Reaction Analysis Indicator System	AF
TWV	Tactical Wheeled Vehicle	A
UAV	Unmanned Aerial Vehicle	AF
UFR	Unfunded Requirement	A
ULT	Unit Level Trainer	AF
UMTE	Unmanned Threat Emitter	AF
USAR	United States Army Reserve	A
UTD	Unit Training Device	AF
VTR	Video Tape Recording	AF
WCMD	Wind Corrected Munitions Dispense	AF
WMD	Weapons of Mass Destruction	CG
WPB	Patrol Boats	CG
WRM	War Reserve Materiel	AF, M
WRMS	War Reserve Materiel Stock	N
WST	Weapon System Trainers	AF

Service Abbreviations

A	Army
AF	Air Force
CG	Coast Guard
M	Marine Corps
N	Navy
All	Applicable to all Services